



PORT MARINE SAFETY CODE

REPORT NUMBER 31006/E0018

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REPORT AUTHORISATION

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Checked

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EXECUTIVE SUMMARY

The Port Marine Safety Code (PMSC) was published by the Government in March 2000. The Code establishes an agreed national standard for port marine safety, and formalises the duties and responsibilities for safety and environmental protection within UK ports and harbours. The Code is applicable to all harbour authorities, and compliance is not optional.

The Code requires that all harbour authorities base their powers, policies, plans and procedures on a Formal Safety Assessment (FSA), and that they maintain a Safety Management System to control the risks that are identified to a level which is as low as reasonably practicable (ALARP).

The Broads Authority (Pilotage Powers) Order 1991 confirms that the Broads Authority is a “Competent Harbour Authority” as defined the Pilotage Act 1987, and as such the Authority falls under the requirements of the Port Marine Safety Code.

Unlike a port, the Broads Authority is designated a “Special Statutory Authority”, affording the same level of protection as National Park status, but with tailor-made legislation relating to navigation. The Authority therefore balances the navigational duties and powers of a harbour authority with the conservation and recreational duties and powers of a National Park authority. These duties and powers are principally set out in the Norfolk and Suffolk Broads Act 1988.

This Safety Management System (SMS) documents the arrangements put in place by the Broads Authority to ensure, as far as is reasonably practicable, the safety of those working on, visiting or using the Broads.

The Broads Authority is committed to the further development of the Safety Management System and proposes to implement recommendations with the system by end 2018.

The Broads Authority would like to acknowledge BMT Isis Ltd, 210 Lower Bristol Road, Bath, BA2 3DQ for their work on the initial preparation and subsequent formal issue of the first version of this document.

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1 Introduction

1.1 Background

- 1.1.1 The Broads is Britain's largest nationally protected wetlands, comprising rivers, broads, marshes, fens and carr woodland. There are over 200km of navigable waterways and over 25% of the area has a European designation, Special Area of Conservation or Special Protection Area, incorporating many National and Local Nature Reserves and Sites of Special Scientific Interest. The Broads is listed under the Ramsar Convention on Wetlands of International Importance, and are home to a diverse variety of rare birds, animals and plants.
- 1.1.2 The Broads Authority ("The Authority") was established as a non-statutory body in 1978 following a report by the Nature Conservancy Council regarding degradation of the Broads.
- 1.1.3 The Broads Authority was formalised as a statutory authority by the Norfolk and Suffolk Broads Act 1988 (Reference 1), ("The Broads Act"), and began operating as such in 1989, for the purpose of conserving and enhancing the natural beauty of the Broads, promoting the enjoyment of the Broads by the public, and protecting the interests of navigation.
- 1.1.4 The Authority is designated a "Special Statutory Authority", affording the same level of protection as National Park status, but with tailor-made legislation relating to navigation. The Authority therefore balances the duties and powers of a harbour authority with those of a National Park authority.
- 1.1.5 The Authority is funded by central government through National Park grant, as well as tolls paid by boat owners who use the Broads.

1.2 The Port Marine Safety Code

PORT
MARINE
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General Duties and Powers: For the purpose of this code, the duty holder should ensure that the harbour authority discharges its responsibilities to:

- **Safe and efficient port marine operations:** Having regard to the efficiency, economy and safety of operation of the services and facilities provided as well as ensuring that appropriate resources are made available for discharging their marine safety obligations.
- **Open Port Duty:** Taking reasonable care, so long as the harbour or facility is open for public use, that all who may choose to navigate in it may do so without danger to their lives or property.
- **Conservancy duty:** Conserving the harbour or facility so that it is fit for use; this duty also includes providing users with adequate information about conditions in the harbour or facility.
- **Revising duties and powers:** The harbour authority should keep its powers and jurisdiction under review and take account of the various mechanisms, such as harbour orders, which are available to amend statutory powers in an authority's local legislation.
- **Environmental duty:** Exercise its applicable functions with regard to nature conservation and other environmental considerations.
- **Civil Contingencies duty:** Take account of the organisation's responsibilities under the Civil Contingencies Act 2004 including planning, preparing and co-ordinating responses to emergencies which threaten serious damage to human welfare, the environment or security.
- **Harbour authority powers:** Harbour authorities must be aware of their statutory powers and responsibilities under both primary and secondary legislation.

Section 3

1.2.1 The Port Marine Safety Code (Reference 2) was published by the Government in March 2000 and updated in December 2012. The Code establishes an agreed national standard for port marine safety, and formalises the duties and responsibilities for safety and environmental protection within UK ports and harbours. The Code requires that all harbour authorities base their powers, policies, plans and procedures on a Formal Safety Assessment (FSA), and that they maintain a Safety Management System to control the risks that are identified to a level which is as low as reasonably practicable (ALARP).

1.2.2 The Port Marine Safety Code is supplemented by a Guide to Good Practice on Port Marine Operations (Reference 3) providing further supporting information and advice.

1.3 Purpose and Scope of the Safety Management System

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In order to comply with the Code, the duty holder on behalf of the harbour authority must: Operate an effective marine safety management system (MSMS) which has been developed after consultation is based on formal risk assessment and refers to an appropriate approach to incident investigation; *Executive Summary*

- 1.3.1 The purpose of this Safety Management System (SMS) is to document the arrangements put in place by the Broads Authority to ensure, as far as reasonably practicable, the safety of those using or working on the Broads.
- 1.3.2 The Broads Authority, as Duty Holder for the Broads, has developed this SMS in accordance with the requirements of the Port Marine Safety Code (Reference 2), taking cognisance of the advice in the Guide to Good Practice on Port Marine Operations (Reference 3). Noting the status of the Authority as a Special Statutory Authority, a pragmatic approach has been taken to the application of the Port Marine Safety Code.
- 1.3.3 As the SMS develops, a wide variety of stakeholders will be consulted with the aim of achieving a SMS, which is practical, workable and supported. The Port Marine Safety Code relates to “marine operations”, which are defined in the Guide to Good Practice on Port Marine Operations Glossary as “.marine operations have been taken to mean the moving, berthing and unberthing of ships and other marine craft within the limits and approaches of a harbour authority.” The code does not apply to areas already regulated by another body, such as the Health and Safety Executive (HSE), or the Maritime and Coastguard Agency (MCA).
- 1.3.4 This SMS not only relates to marine and navigational safety but also to safety relating to the land assets that the Broads Authority manages, typically footpaths and areas where the public have access. It does not address health & safety issues for Broads Authority premises.
- 1.3.5 The SMS covers members of the public using hired or privately-owned craft, as well as Broads Authority employees when working on the water.
- 1.3.6 In this SMS, the following convention applies to the text of the document:

Blue text in a blue box represents a direct quote from the Port Marine Safety Code;

Red italicised text indicates a current non-compliance with the Code;

Orange bold text indicates a recommendation for future development or consideration.

1.4 Interfaces

1.4.1 The Broads Authority's area of jurisdiction has boundaries with two other authorities, as described below. The details of each boundary are discussed in section 3.

- a) **Great Yarmouth Port Company Ltd:** Peel Ports Marine Safety Management System MSM/001 April 2017 (Reference 4) describes their response to the PMSC
- b) **Associated British Ports Lowestoft:** Associated British Ports - Marine Policy 2017 (Reference 5) describes their response to the PMSC.

1.5 Legislative Duties and Powers of the Broads Authority

1.5.1 The duties and powers of the Broads Authority are derived principally from the provisions of three Acts of Parliament.

Norfolk and Suffolk Broads Act 1988

1.5.2 The Norfolk and Suffolk Broads Act 1988 (c.4) (Reference 1) established the Broads Authority as the statutory harbour and navigation authority for the navigation area, as well as the planning authority for the area. It gave the Broads Authority the duty to manage the Broads for the purpose of:

- a) Conserving and enhancing the natural beauty of the Broads;
- b) Promoting the enjoyment of the Broads by the public;
- c) Protecting the interests of navigation.

1.5.3 It also gives the Authority power to "do anything which is necessary or expedient for the purpose of enabling it to carry out its functions." Specifically, the Authority have the power to raise tolls for the use of the Broads by members of the public and by commercial shipping. The Authority also has the power to raise Byelaws, subject to a process of consultation and parliamentary approval. The Act does not give the Authority power to exclude a boat or person from the public waterways, providing their toll has been paid.

1.5.4 The Act also defined the composition of the Broads Authority, at the time this consisted of 35 members. This was later revised by the Alteration of Constitution of the Broads Authority Order 2005 (Reference6), reducing membership from 35 to 21, in accordance with Department for Environment, Food and Rural Affairs (Defra) recommendations. The current composition of the Authority is described in Section 2.1

Pilotage Act 1987

- 1.5.5 The Pilotage Act 1987 (Reference 7) describes the duties and powers of a “competent harbour authority” with respect to the provision and authorisation of pilots. The Act states that a competent harbour authority is required to keep under consideration what pilotage services should be provided to ensure the safety of ships navigating in the harbour, and whether such pilotage should be made compulsory. The Broads Authority (Pilotage Powers) Order 1991 (Reference 8) confirms the Broads Authority’s status as a “competent harbour authority”.

The Broads Authority Act 2009

- 1.5.5 The Broads Authority Act 2009 (Reference 9) received Royal assent in August 2009, the Act grants the Authority additional powers including:
- a) Giving of general directions to vessels;
 - b) Giving of special directions to particular vessels;
 - c) Impose a compulsory third-party insurance requirement on vessels registered with the Authority;
 - d) Impose construction and equipment standards on vessels for the purposes of safety management;
 - e) Regulate and give directions to water skiers;
 - f) Removal of Vegetation
 - g) Application of the public Health Acts Amendments Act 1907
 - h) Take responsibility for the Breydon Water and Lower Bure areas.

1.6 Other Relevant Legislation

Natural Environment and Rural Communities Act

- 1.6.1 The Natural Environment and Rural Communities (NERC) Act 2006 (Reference 10) establishes a body known as Natural England, to replace the Countryside Agency and English Nature.
- 1.6.2 The Act modifies the first two purposes of the Broads Authority as follows (the modification is in *italics*):
- a) Conserving and enhancing the natural beauty, *wildlife and cultural heritage* of the Broads;
 - b) Promoting *opportunities for the understanding and enjoyment of the special qualities of the* Broads by the public;

Health and Safety at Work Act

- 1.6.3 Under the Health and Safety at Work Act 1974 (Reference 11), employers have a duty to ensure, so far as is reasonably practicable, the health and safety of its workers and other persons who may be affected by the Authority's undertakings.
- 1.6.4 In addition, the Management of Health and Safety at Work Regulations (1999) (Reference 12) require every employer to make a suitable and sufficient assessment of all the risks to the health and safety of workers and others arising at or from a work activity.

Byelaws

- 1.6.5 The Broads Act gives the Broads Authority the power to make Byelaws in respect of areas which are owned by the Authority, or to which the general public have a right of access. The Authority is required to obtain the approval of the Secretary of State in order to make Byelaws, and must consult with Natural England for Byelaws relating to the use of land.
- 1.6.6 Five sets of Byelaws have been made, covering Navigation, Vessel Registration, Vessel Dimensions, Speed Limits, Boat Safety Standards however the Boat Safety Standards Byelaws have now been revoked following the implementation of the Construction Standards provision in the Broads Authority Act 2009.
- 1.6.7 A byelaw was made by the East Suffolk and Norfolk River Authority in 1967 relating to control of pollution in the Broads by sanitary appliances on boats. In 1989, with the formation of the Broads Authority and the establishment of the Water Act, the continuing authority of this byelaw was confirmed by a Statutory Instrument (Reference 13).

1.7 Navigation Safety Policy

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The duty holder is accountable for safe and efficient operations. The duty holder should make a clear published commitment to comply with the standards laid down in this Code.

Section 2.1

- 1.7.1 The Broads Authority is the Competent Harbour Authority for the Norfolk and Suffolk Broads. The Port Marine Safety Code, which was last revised in November 2016, serves to highlight the responsibilities that are allied to being a Harbour Authority and establishes a requirement for all Harbour Authorities to formalise their procedures.

In publishing the Broads Authority marine policy the Authority aims to demonstrate its commitment to the Code through the measures

The Broads Authority is committed to compliance with the Port Marine Safety Code and has developed a Navigation Safety Policy outlining the steps the Authority will take to facilitate the safe and responsible operation of our harbour and demonstrate compliance with the Code. The policy is stated in Figure 1-1 overleaf.

- 1.7.2 The Broads Authority has published the Navigation Safety Policy on the Authority's Website.

Broads Safety Policy

As part of its commitment to facilitating the safe navigation and operation of vessels within the Broads, the Broads Authority has developed a Broads Safety Policy. It is the Broads Authority policy that it shall:

- a. Develop and maintain an effective Safety Management System to enable the Broads Authority to undertake and regulate operations in a way that safeguards the Broads, its users, the public and the environment;
- b. Use risk assessment techniques to identify hazards and risks within the Broads and put in place suitable risk control measures to ensure that the risks identified are As Low As Reasonably Practicable, and that the appropriate emergency plans are in place and well-practiced;
- c. Monitor and manage the navigation of vessels within the Broads limits;
- d. Consult widely with the employees, Broads users and other relevant stakeholders in respect of navigational and land based safety issues;
- e. Ensure that an efficient, safe and appropriate level of Pilotage is available in accordance with the Pilotage Act 1987;
- f. Undertake hydrographical surveys and maintenance dredging to ensure that the hydrographic regime is protected;
- g. Place and maintain navigational marks where they will be of best advantage to vessels;
- h. Disseminate any relevant safety information to Broads users;
- i. Regularly review the effectiveness of the Broads Authority legal powers, byelaws and directions in respect of user safety;
- j. Evaluate the safety performance of the Broads Authority through reporting systems contained within the Safety Management System;
- k. Employ suitably qualified personnel and provide the necessary training to ensure that they are competent within the roles they are required to perform, and ensure sufficient resources are available to implement procedures and systems effectively;
- l. Ensure the craft and vehicles used within the Broads Authority have the required certification and are fit for the purpose, and the staff are appropriately trained and qualified for the tasks they are likely to perform.

This policy will be reviewed on an annual basis with due consideration given to any changes to the operating environment, the organisation and legislation.

Figure 1-1: Broads Safety Policy

2 Roles and Responsibilities

2.1 The Broads Authority

- 2.1.1 The Broads Authority is composed of 21 appointed Members, in accordance with the Broads Act Order 2005 (Reference14), including representatives from local councils and Defra. The allocation of members is shown in Table 2-1 below.
- 2.1.2 One Member is nominated as the Chair, and he is supported by a vice-chair. Collectively and individually, the Board has responsibility as “**Duty Holder**” as defined by the Port Marine Safety Code.
- 2.1.3 Although the Duty Holders may (and indeed do) delegate the operation of the harbour, including implementation of the SMS, to appropriate professional personnel, they may not delegate or abdicate their accountability for marine safety under the Port Marine Safety Code.

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Organisations must have a “duty holder” who is accountable for their compliance with the Code and their performance in ensuring safe marine operations. For most organisations, the role of duty holder is undertaken by members of the management team or a board who are (both collectively and individually) publicly accountable for marine safety under the Code.

Section 1.6

Body to be represented	Members
Defra	10
Norfolk County Council	2
North Norfolk District Council	1
Waveney District Council	1
South Norfolk Council	1
Broadland District Council	1
Norwich City	1
Suffolk County Council	1
Great Yarmouth Borough Council	1
Appointed from Navigation Committee	2

Table 2-1: Composition of Broads Authority

Broads Authority Safety Management System

2.1.4 Members also sit on one or more of three Committees, which report directly to the Broads Authority. See section 4.2 for more details of the Committees

Committee	Authority Members	Appointed Members
Navigation	5	8
Planning	11	0

Table 2-2: Membership of Committees

2.1.5 The Navigation Committee has a scrutiny role and gives advice on waterways management and navigation issues, including safety. The eight appointed members represent relevant interests such as hire boat owners, private owners and passenger boat owners.

The relationship between these committees, and other groups and fora, is shown in Figure 2-3 below.

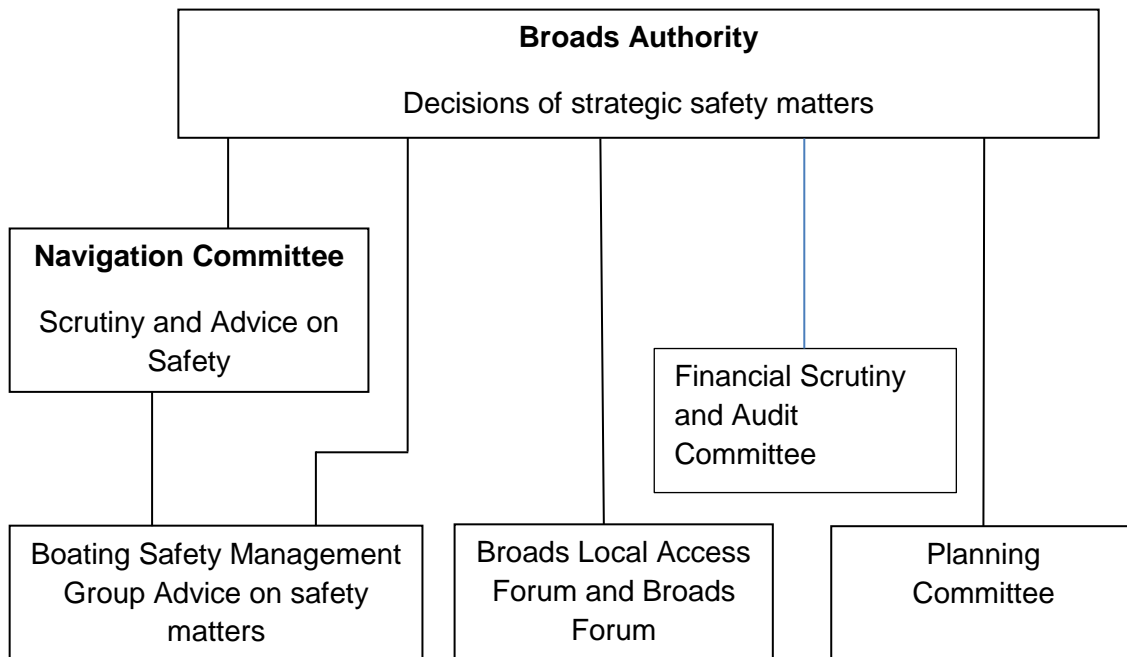


Figure 2-3: Broads Authority Committee Structure

2.2 Executive Structure

- 2.2.1 The Chief Executive (CE) has overall responsibility for operational matters following the strategic direction set by the Members of the Broads Authority. The CE is supported by two directors, the chief financial officer and the solicitor and monitoring officer, and comprise the Management Team.
- 2.2.2 The Management Team is shown in shown in figure 2.4 below.

2.3 The Director of Operations

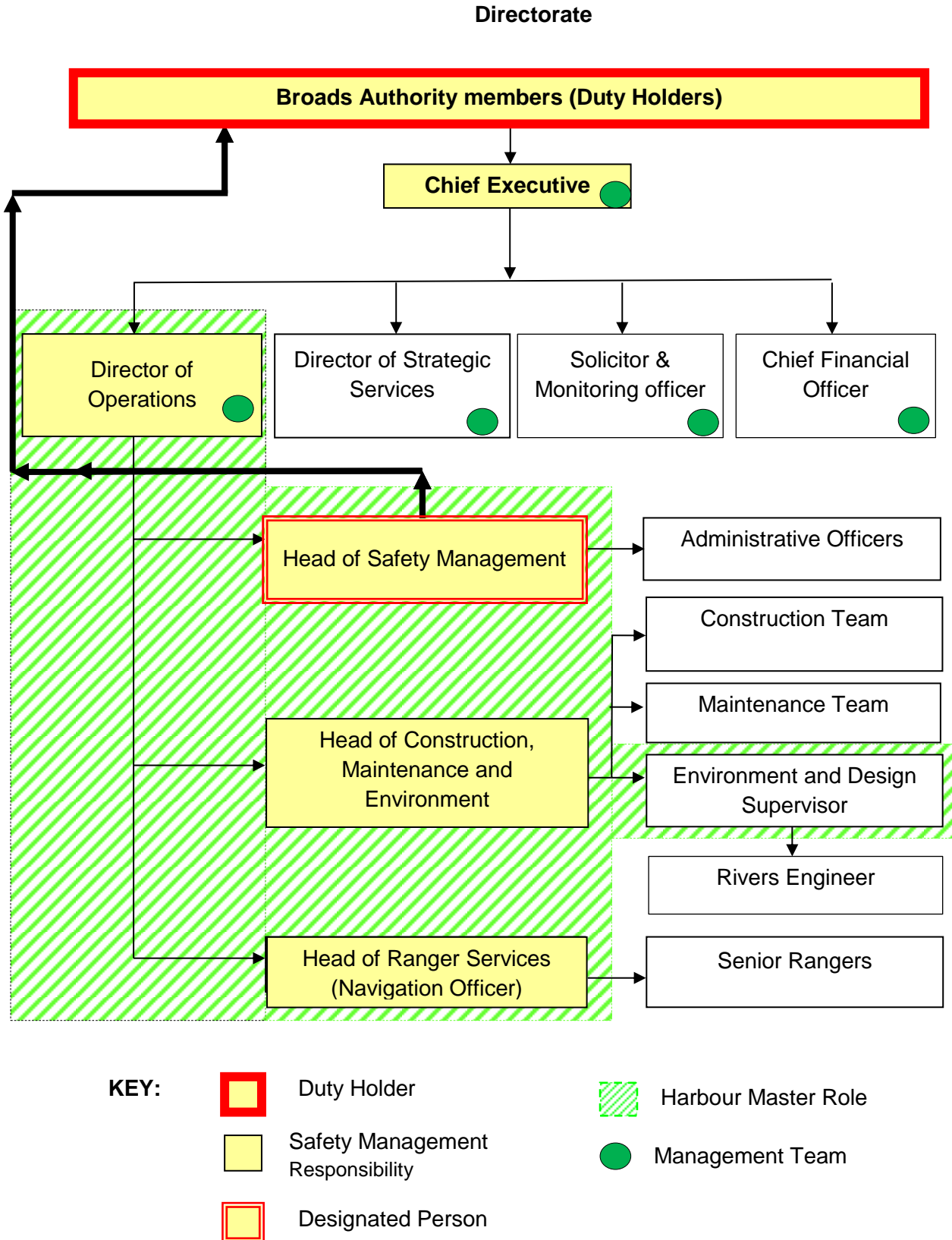
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Each organisation must appoint an individual as the “designated person” to provide independent assurance directly to the duty holder that the MSMS, for which the duty holder is responsible, is working effectively.

Section 1.11

- 2.3.1 The Director of Operations has responsibility for navigational safety across the Broads. The Director is supported by the Head of Safety Management and the Navigation Officer appointed as required by the Broads Act 1988 Part 2 Section 10(7), whose functions are set out in Schedule 5 Part 2 Sections 17, 18 and 19.
- 2.3.2 The Duty Holder has appointed the Head of Safety Management to act as the “**Designated Person**” as defined by the Port Marine Safety Code. This person’s main responsibility is to determine, through assessment and audit, the effectiveness of the marine safety management system ensuring compliance with the code. The nomination as Designated Person is formalised in the post holders Job Description (see section 2.4). The Head of Safety Management is supported by two Officers.
- 2.3.2 The Director of Operations is also responsible for the Dockyard operation, Works and Construction teams, Ranger services, the Environment and Design Supervisor and the Rivers Engineer, all of whom have an impact on safety. The structure of the directorate is shown in figure 2-4 below.

Figure 2-4: Management Team Structure and Operations



2.4 Job Descriptions

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Executive and operational responsibilities for marine safety must be clearly assigned and those entrusted with these responsibilities must be appropriately trained, experienced and qualified to undertake their duties and be answerable for their performance. *Section 1.1*

2.4.1 The following paragraphs provide the safety-related aspects of the job descriptions of the personnel defined above, including allocation of responsibilities under the Port Marine Safety Code.

Director of Operations

- a) As a member of the Management Team provide advice and guidance to the Chief Executive, other members of the Management Team and members of the Authority on all operational matters.
- b) Support, lead, facilitate, and manage the performance and development of all staff in the Operations Directorate so that they are effective in delivering the Authority's Business Plan and annual priorities.
- c) Provide guidance and advice to the Broads Authority and its committees and working groups on the implementation of all the Authority's plans and projects.
- d) Oversee and manage all the practical work of the Authority including dredging the navigation area and isolated broads, management of fens and sites of nature conservation importance, and sites and facilities which promote the enjoyment and understanding of the Broads.
- e) Programme the practical work of the Authority to make the best use of resources and deliver quality outcomes on time and within budget to deliver the Authority's objectives and plans.
- f) Support and guide the work of Ranger Services in patrolling, enforcing the Authority's byelaws, inspecting and maintaining sites and facilities and providing guidance to the public.
- g) Direct and develop an approach to safety management that minimises risks to as low as reasonably practical across all the Authority's activities.
- h) Direct and develop an integrated volunteer service that supports the implementation of the Authority's plans and priorities and delivers a valuable experience to the volunteers in a safe working environment.
- i) Work with stakeholders across the Authority's functions to ensure that they are well informed of the Authority's policies, plans and programmes.
- j) Represent the Authority through close liaison/presentations/negotiations with the constituent authorities, landowners, user groups, the general public, statutory bodies, strategy groups and industry on all strategic planning matters.
- k) Contribute to the setting of the Authority's budget including the formulation of the Operations Directorate budget and to manage and monitor expenditure and income of the Directorate to ensure that the Authority receives good value for money.

Head of Safety Management

- a) As the Authority's Health and Safety Advisor to be responsible for the introduction of regulation or best practice guidance, to coordinate and advise on all health and safety at work matters, to chair the Authority's Safety Committee and to ensure, in conjunction with staff safety representatives, that the Authority complies with relevant health and safety legislation and that working practices and systems are safe and in accordance with good practice and regulation.
- b) Investigate, report and, where appropriate, make recommendations to the Authority on Occupational Health and Safety incidents and incidents in the Broads which relate to safety, including boat fires, explosions, personal injuries or accidents on or around boats, serious navigational incidents and drowning or injuries sustained on Broads Authority property. To deal with the media in respect of incidents.
- c) Undertake the role of PMSC *Designated Person* with responsibility to provide independent assurance, directly reporting to the Authority that the marine safety management system is working effectively through the continued development and regular audit of a Marine Safety Management System for the Broads, pursuant to the Port Marine Safety Code.
- d) Work with private users and commercial concerns to ensure sustainable and safe use of the Broads as far as is reasonably practicable.
- e) Responsible for the development and regular review of an Asset Management system, including processes and procedures for the identification of all Authority assets, their regular inspection, maintenance and risk assessment.
- f) Responsible for the development and regular review of an Oil Spill Contingency Plan for the Broads including involvement in the deployment and operation of oil spill clean-up equipment and materials.
- g) Responsible for the introduction of regulation or best practice guidance appropriate to Broads recreation which includes developing and providing advice and assistance to interested parties, and as a qualified boat safety examiner be responsible for training and technical support of staff engaged in licensing and enforcement.
- h) Responsible for the assessment and licensing of Hire Boats and Small Passenger Boats on the Broads
- i) Responsible for policy development, organising, planning, implementation monitoring, review and audit of corporate Health & Safety Systems
- j) Conduct external consultations on statutory requirements relating to waterways safety management issues and implementation of Broads Authority legislation

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- k) To provide technical support to the Authority relating to vessel construction and vessel systems for the purposes of development and maintenance of the Authority's work boats, patrol vessels and passenger vessels.
- l) Responsible for staff training records and to ensure that all staff are adequately trained to discharge the Authority's duties under health and safety legislation, including the delivery of in house and external training and to train staff where appropriate.
- m) Liaise with other organisations/individuals concerned with the safe use of the Broads including the waterways, particularly in connection with technical, operational and general safety matters.
- n) Maintain awareness of current and evolving health and safety, port, waterways and environment legislation, regulations and best practice and ensure that the Authority fully and properly discharges its responsibilities in the context of its Health and Safety, marine operations and its other regulatory functions.

Head of Ranger Services

- a) **Safety of the Public**
Oversee the work of the Ranger Team and volunteers providing formal line management to the Deputy Head of Ranger Services, direction on training, and guidance on the Team's day to day management. To ensure that conditions are present for the safe, orderly and environmentally sustainable use of the Broads for recreational purposes and that the Authority's byelaws and regulations are observed and where appropriate enforced. Liaise with the Rivers Engineer to ensure that contractors or others seeking to undertake works in or affecting the navigation area are advised of the Authority's requirements concerning navigation and river safety.
- b) **Practical Works and Monitoring of Sites**
Develop and monitor a programme of work to record the condition of sites and visitor facilities in the Broads and ensure Rangers carry out minor works to improve access, biodiversity and public safety, such as tree and scrub management, maintenance and minor improvements to ensure the locations are kept in good order.
- c) **Role of Navigation Officer**
Undertake the duties and responsibilities of Navigation Officer as defined in the Norfolk and Suffolk Broads Act 1988. Give navigational directions to vessels as appropriate, including for towing. Grant permissions for events and regattas under schedule 5 of the Norfolk and Suffolk Broads Act 1988. *[Note: This consists of the ability to give directions to specific vessels in relation to navigation, mooring, loading/unloading, etc. Broads Act, Schedule 5, Paragraph 18];*The duties include inclusion on the roster as required, and provision of out of hours emergency cover.
- d) **Prosecutions**
Progress prosecutions where appropriate, maintain the required records

and discharge the functions of Officer in Charge for the purposes of Criminal Procedure and Investigations Act 1996. Ensure that the Ranger Team is properly trained in the processes of prosecutions and evidence gathering. Investigate and record reported incidents, liaising with the Safety Management Officer concerning the investigation of incidents, particularly those of a technical nature.

e) **Equipment and Assets**

Ensure that operational bases, vehicles, vessels and other equipment are kept secure, in good and safe repair and that defects are promptly rectified. Ensure that Authority assets including signage, countryside furniture and moorings are kept in good and safe condition and that defects are noted and reported and that prompt action is taken in accordance with asset management systems to mark hazards and obstructions. Ensure that sites operated by the Authority are used in accordance with the Authority's policies and that instances of unlawful use are promptly dealt with and that abandoned and sunken vessels are dealt with according to the Authority's powers and procedures.

f) **Emergencies**

Liaise with the Police, Coastguard and other emergency services to ensure that the Authority's personnel and resources are appropriately used in emergency situations. Take part in emergency exercises ensuring that the Authority takes a proper role in exercises and emergency response training. Prepare emergency/major incident plans. Assume the role of designated person under the Oil Pollution Preparedness, Response and Co-operation (OPRC) regulations. . *[Note: This is not to be confused with the "Designated Person" identified by the Port Marine Safety Code.]* Provide leadership and assume responsibility in incident or emergency situations including oil spill incidents. As appropriate, to be included in the emergency call-out list provided to police, coastguard and emergency services and, in the event of an incident, to attend and help mobilise the Authority's response.

g) **Engagement with Stakeholders**

Liaise with a wide variety of external organisations, where necessary representing the Broads Authority at meetings.

h) **Partnership working**

Negotiate and supervise the Broads Beat annual agreement to ensure optimum specialist policing liaison, support the work of the Local Access Fora (Norfolk and Suffolk) by undertaking agreed priority route management, and maintain close links with other partners as required.

i) **Health and Safety**

Ensure that health and safety best practice is followed by the Ranger Team and their volunteers including the routine and monitored production of risk assessments.

j) **Directing Volunteers**

Ensure that volunteers working with the ranger team are trained and supported so that they can contribute effectively to the Authority's aims and objectives and that their health and safety is protected, and receive a worthwhile experience.

k) **Community Liaison, Events and Education**

In order to promote a greater understanding of the special qualities of the Broads and raise awareness about safety matters arrange with the Communications Team appropriate attendance and support at events and schools, in accordance with corporate priorities and the agreed annual programme of events.

2.5 Training cycle

PORT
MARINE
SAFETY
CODE

Harbour Authorities must assess the fitness and competence of all persons appointed to positions with responsibility for marine and navigation safety. Achieving marine port safety is a team operation and people in these roles must be competent and adequately trained. Section 2.8.

- 2.5.1 The Port Marine Safety Code refers to the National Occupational Standards for Port Marine Operations (Reference 15), and states that the training and competence of officers with safety duties should be in compliance with these standards, or demonstrably equivalent to them.
- 2.5.2 The Authority has a Training and Development Policy, which demonstrates the Authority's commitment to identifying and providing an appropriate level of training and development for all staff employed by the Authority. (Reference 16)
- 2.5.3 The Authority has a Marine Operations Training Policy (Reference 17) which details training needs following a formal skills matrix analysis of both safety management personnel, field personnel and those personnel with direct responsibility from their collective roles as Harbourmaster. This policy allows for the review of compliance and equivalence qualifications or experience with the National Occupational Standards for Port Marine Operations, Reference 13.

The Authority has also published a Health and Safety Policy, (Reference 18) Its objective is as follows:

" The Broads Authority ("the Authority") recognises and accepts its responsibility as an employer for providing a safe and healthy workplace and working environment for all its employees and volunteers and others affected by its undertakings.

The Authority will take such steps as are reasonably practicable to meet this responsibility, including the provision of funds and resources, paying particular responsibility to the provision and maintenance of:

- a) plant, equipment and systems of work that are safe and without risk to health;*
- b) safe arrangements for the use, handling, storage and transport of articles and substances;*
- c) sufficient information, instruction, training and supervision to ensure that all employees are aware of the hazards to their own health and safety at work, and of the necessary measures which should be taken to protect against these hazards and which would contribute positively to their own health and safety at work;*
- d) a safe place of work, and safe access to and egress from it;*

- e) *a healthy working environment;*
- f) *adequate welfare facilities and arrangements; and*
- g) *a review and monitoring procedure to ensure the effective management of health and safety across the Authority.”*

2.5.6 The following minimum standards are set for those working in the field:

- a) all staff working in the field are expected to undertake appropriate first aid training and manual handling training
- b) all Broads Authority staff who are required to operate boats (including workboats, launches and public trip boats) must hold a RYA Level 2 Power Boat qualification at a minimum or a MCA Boatmaster licence;
- c) officers responsible for fire safety and emergency procedures must have undertaken fire safety awareness training;

2.5.7 The Authority has also formed a Safety Committee, the role of which is to ensure that the Authority's safety policy is implemented effectively, that safety standards are maintained and to provide a forum whereby matters relating to health and safety at work can be discussed.

The role of the committee is set out in Section C4 of the Health and Safety Policy (Reference 18).

2.6 Planning and Implementing

- 2.6.1 As required by the Broads Act, the Authority has produced a five-year plan, known as the “Broads Plan” (Reference 19). The Plan sets out a vision for the Broads, supported by both long-term (20 year) aims and short-term (five year) objectives.
- 2.6.2 The Broads Plan is the key management plan for the Broads. It sets out a long-term vision and guiding actions for the benefit of the natural and cultural environment, local communities and visitors. The plan is reviewed and updated every 5-7 years. The current Broads Plan was adopted in March 2017, and covers the period 2017-22. While the Broads Authority is responsible for its production, it is a partnership plan for the Broads, and its success very much depends on a common vision, strong partnership working and the best use of shared resources.
- 2.6.3 Section 3.Cof the current Plan (Maintaining and Enhancing the Navigation) identifies several objectives related to safety management. These objectives are broken down into sub-objectives which are set out in the plan.
- 2.6.4 The safety objectives in the Broads Plan 2017 are described in Figure 2.5 below.

**Broads Authority
Safety Management System**

Aspiration 3 - Apply a catchment-scale approach to reduce sediment input and the sediment backlog, and sustainably reuse or dispose of dredged material.			
ref	Strategic Action	Key outputs by 2022	Indicators
3.1	Implement dredging regimes in accordance with defined waterways specifications, and seek resources/legislation to accelerate the removal of sediment in the Broads system	Annual dredging programme implemented in accordance with defined waterways specifications and agreed targets	Vol. sediment removed (min 50,000m ³ pa); % compliance with waterways specs
		Additional resources in place to support sustainable sediment management; appropriate inland waterways legislation and good practice for dredging and disposal processes developed, in place and shared	Secured additional funding, up-to-date legislation and guidance
3.2	Implement plans and good practice guidance to reduce soil erosion into the waterways, manage areas lost or vulnerable to erosion, and dispose of dredged material in sustainable and beneficial ways	Best practice land management techniques to reduce erosion promoted and in place, e.g. increased cover crops, buffers and sustainable drainage, riparian fencing, soil organic improvements, soil compaction reduction; up-to-date environmental good practice guidance promoted to recreational users	SSSI condition assessments, WFD EC status, CFE records
		Stretches of lost or eroded riverbank/island identified and prioritised for restoration; land protection, creation and restoration strategies in place, using innovative sediment reuse techniques where. Key project: Formal partnership agreement and feasibility study/work plan in place for long-term management of River Chet (true left bank) to maintain access to navigation and Wherryman's Way	Condition status of Chet true left bank; other targets to be agreed
		Strategic approach taken to identify sustainable options for additional dredging disposal sites/capacity as part of Broads-wide network, also seeking environmental gains, and appropriate permissions and resources secured	BA annual operations data

**Broads Authority
Safety Management System**

Aspiration 4 - Maintain a safe, open navigation and reduce pressures on busy or vulnerable areas			
4.1	Maintain existing navigation water space and develop appropriate opportunities to expand or extend access for various types of craft	Audit of existing and potential new navigation water space completed; schemes and agreements developed to enhance water space access, consistent with nature conservation interests and flood risk management; access to closed broads dealt with on basis of current legal advice, and opportunities created to negotiate increased access	Broads Integrated Access Strategy action plan targets
		Increased use of River Yare for commercial transport promoted, with waterways specifications adopted and implemented as required	To be agreed
		Network Rail Delivery Plan developed for refurbishment/replacement of Somerleyton and Reedham swing bridges, including secured funding and agreed design and mitigation measures	Network Rail CP6 Delivery Plan schedule met
4.2	Carry out appropriate aquatic plant cutting and tree and scrub management programmes and seek resources to increase operational targets	Annual tree and scrub management regimes carried out in accordance with agreed navigation, nature conservation and other criteria, using priority mapping; improved level of operations in place through BA Area Ranger Team strategies for partnership working [BA, community groups, landowners]; annual regimes for aquatic plant cutting in navigation channels carried out in accordance with agreed criteria	Length riverbank & navigation channels meeting agreed criteria, annual plant monitoring data
4.3	Implement, promote and monitor measures to maintain and improve safety and security for the navigation and boats	Boat safety measures in operation, incl. up-to-date Safety Management System and Boat Safety Scheme; Hire Boat Code part 2 transferred to local licence conditions; temporal or spatial zoning agreements/ protocols and pilot schemes in effect as required for water sport activities and events, incl. water skiing, wakeboarding, power boat racing and competitive rowing	PMSC external audit (safety levels within ALARP region)
		Navigation patrolling maintained; recreational user safety and security promotional events and guidance made available; up-to-date navigation infrastructure inspection and maintenance regimes in place and completed to agreed annual schedules	NPA (BA) indicators and targets

Figure 2-5: Safety objectives from Broads Plan 2017

Broads Authority Safety Management System

Progress against objectives

- 2.6.5 The Broads Authority regularly publishes a Broads Plan newsletter on its website which highlights progress made to date against all of the plan aspirations and targets. See <http://www.broads-authority.gov.uk/broads-authority/how-we-work/strategy>

The table below provides an update in response to Aspiration 3 and 4 from the Broads Plan and shows progress to date against the targets and outputs.

Objective	Current Status
3.1	To end Sept 2017: 28,490m ³ of dredged sediment removed from prioritised sites (54% of BA programmed annual target) and winter dredging programme activated. Detailed BA dredging reports, and summary of hydrographic survey analysis, available at www.broads-authority.gov.uk/broads-authority/committees/navigation-committee
3.2	4-year European funded CANAPE project launched. 14 partners from 5 countries will develop research and practical works to protect peatlands. BA projects involve completion of Hickling Vision, including island recreation and large scale dredging and deposition.
4.1	BA in discussions with Network Rail on preferred options for managing Trowse swing bridge. NR wish to undertake feasibility study but funding of £4-5m not yet secured.
4.2	BA 5-year priority mapping exercise for riverside tree and scrub management carried out. Around 4000m of riverbank identified and work underway. BA annual programme of aquatic plant cutting within navigation channels underway in line with agreed criteria, and monitoring of stonewort cutting trials in Hickling Broad ongoing. Detailed reports available at: www.broads-authority.gov.uk/broads-authority/committees/navigation-committee
4.3	Updated conditions agreed for commercial paddling scheme. AINA/MCA/BM Hire Boat Code updated and awaiting final release for national consultation. BA boat test area management arrangements reviewed and no changes made. Working group of BA, Broads Beat and boating interests addressing issue of anti-social behaviour on waterways. Agreed actions include expanding Super Safety days programme, encouraging limiting maximum speed of hire day boats, mobile speed signs, intelligence sharing on incidents, and possibly increasing Ranger/Broads Beat presence in evenings.

Table 2-6: Status of Action Plan Objectives

3 A Navigation Area Overview

3.1 Introduction

- 3.1.1 This section of the SMS defines the geographical boundaries of the navigation area and the limits of jurisdiction of the Broads Authority, identifies channels and berths within the area, describes meteorological data relevant to the navigation area, and identifies sites subject to various environmental designations.

3.2 The Navigation Area

- 3.2.1 The navigation area under the responsibility of the Broads Authority is defined in Section 8 of the Broads Act.
- 3.2.2 The Broads Act defines the navigation area as all navigable stretches of the rivers Bure, Yare and Waveney and their tributaries (rivers Ant, Thurne and Chet), including Oulton Broad, Haddiscoe New Cut, and the navigable part of the river Wensum in Norwich upstream of its confluence with the Yare.

Interface with Great Yarmouth

- 3.2.3 The Broads Act excludes those areas which are the responsibility of the Great Yarmouth Port Authority under the Great Yarmouth Port and Haven Acts and Orders 1866 to 1986.
- 3.2.4 The navigational responsibilities for Breydon Water and the lower reaches of the Yare, Bure and Waveney have been transferred from Great Yarmouth Port Authority to the Broads Authority in June 2012.
- 3.2.5 Provisions in the Broads Authority Act 2009 allowed for the transfer of responsibility for the navigation of these areas to the Broads Authority. This transfer resulted in the boundary of the Broads Authority's navigation area being extended to include Breydon Water, the lower reaches of the rivers Yare and Waveney to a limit upstream of Haven Bridge on the river Yare. This point is also the current limit of navigation for hire craft.
The Broads Authority has previously been heavily involved in patrolling of Breydon Water, and therefore this SMS now includes this area.

Interface with Lowestoft

- 3.2.7 At Lowestoft, Mutford Lock, at the eastern end of Oulton Broad, marks the boundary with Associated British Ports Lowestoft. Mutford lock is currently owned by Associated British Ports Lowestoft (ABP) however as there is no commercial traffic wishing to use the lock ABP sought to close the lock. However an agreement between ABP and the Broads Authority was entered into which allowed for the Broads Authority to manage and maintain the lock to facilitate its use by recreational users of the Broads.
- 3.2.8 There is a harbour revision order in draft which transfers the ownership of Mutford Lock from ABP to the Broads Authority. It is envisaged that the transfer will be completed in 2018.
- 3.2.9 Mutford Lock is operated by Waveney District Council on behalf of the Broads Authority. The lock is used almost exclusively by private craft - there is little commercial traffic, and hire craft are not permitted to pass through the lock.
- 3.2.10 The navigation area is summarised in Figure 3-1 below.



Figure 3-1: Map of the Broads

3.3 Principal uses

3.3.1 Unlike a commercial port, the Broads is home to a wide variety of river traffic. Commercial freight traffic is almost non-existent. The following represents the principal uses of the Broads:

- a. Day hire craft (self-drive);
- b. Larger motorised hire craft, typically hired out for a week (self-drive);
- c. Guided tour boats - approximately 8 MCA-certified passenger craft offering guided excursions;
- d. Small passenger boats (less than twelve passengers);
- e. Private motor boating;
- f. Sailing - including hire self drive, private and tuition;
- g. Water skiing - in specific areas and at specific times as designated under the 2009 Act;
- h. Rowing, Canoeing and stand-up paddle boarding
- i. Power Boat racing (Oulton Broad only);
- j. Angling, either from the bank or from a moored craft;
- k. Very infrequent delivery of heavy fuel oil to the sugar beet factory at Cantley by coaster

3.3.2 These activities are mostly seasonal, with the majority of activity taking place between April and October; however there remains a lower level of activity over the winter months.

3.4 Meteorological Data

[Guide to
Good
Practice on
Port Marine
Operations](#)

In addition to information about general conditions, harbour authorities should also have procedures to make available timely information on prevailing and forecast meteorological conditions such as wind, tide and other factors liable to be affected by the weather and the way the harbour is used. *Guide to good practice 7.1*

3.4.1 The Guide to Good Practice on Marine Port Operations recommends that the authorities should make available information about current and forecast meteorological conditions. Although the effects of the weather are likely to be less significant on an inland waterway than a port, there can be an impact, especially on large bodies of water such as Breydon Water.

Broads Authority Safety Management System

- 3.4.2 Some harbour authorities have dedicated weather stations, or purchase customised weather information from the Met Office. Given the sheltered inland nature of the Broads and the geographic spread of the area, it is suggested that this level of detail would be inappropriate for the Broads.
- 3.4.3 Publication of forecast tidal information is currently carried out by the Authority (annually in a booklet and a visitor newspaper, and weekly on the Broads Authority website).
- 3.4.4 The Authority has developed a weather forecast policy See figure 3-2.

Figure 3-2: Broads Authority Weather Forecast Policy

Broads Authority Weather Forecast Policy

In accordance with the Port Marine Safety Code, the Broads Authority has a duty to make available timely information on prevailing and forecast meteorological conditions.

It is the Authority's policy that it will:

- a) Maintain a link to a nationally recognised weather forecasting agency, from the Broads Authority Website, the forecast from the link will include general weather conditions, wind speed and direction including weather warnings for the local area.
- b) Maintain forecast weather data information via the Broads Authority website, at yacht stations, Broads Authority visitor centres and Navigation Rangers.
- c) Keep this policy under review as part of the planned monitoring and auditing of the Safety Management System Action Plan;
- d) Act in a proportionate and timely manner to address any perceived shortfalls in this policy.

3.5 Navigation Channels and Berths

- 3.5.1 Several areas are currently marked, either by posts or buoys, and these are regularly checked by the Rangers. A report is issued when works are required, and this is then programmed, either using the Broads Authority maintenance team or contractors as appropriate.
- 3.5.2 The Broads Authority has developed a Geographic Information System (GIS) based Asset Management System to regulate the management of navigation channels. The system will flag up planned regular inspections and maintenance as it becomes due, and will also provide a means for Rangers to record observed problems with navigation channel markings.
- 3.5.3 The only commercial berth within the navigation area is the quay at the sugar beet factory at Cantley. This quay is owned and managed by British Sugar. There are many staithe around the Broads system, the historic use of these staithe was for loading and unloading of goods to service local communities, however very few of these staithe are now used for this purpose.
- 3.5.4 The Broads Authority Act 2009 includes a provision for the Authority to designate areas for the loading and unloading of any goods.
- 3.5.5 There are a large number of public and private moorings throughout the Broads. Moorings are discussed under section 8.3.

3.6 Traffic Monitoring

- 3.6.1 Given the large and geographically dispersed nature of the Broads, there is no Vessel Traffic System (VTS) or similar traffic monitoring system. Traffic is monitored on a daily basis by the Head of Ranger Services and a team of Rangers, who maintain regular patrols across the area, using Broads Authority launches.
- 3.6.2 Some private vessels and the larger trip boats communicate by VHF radio. Hire boats and small vessels do not have VHF radios. Hirers will generally call on mobile phone if necessary, e.g. for bridge opening, problems with their boat, or to contact the emergency services.

3.7 Environmentally Sensitive Sites within the Broads

- 3.7.1 The Broads is one of Europe's finest and most important wetlands for nature conservation. It includes designated sites for nature conservation, including 28 Sites of Special Scientific Interest (SSSIs), which cover 24% of the Broads executive area. One-third of SSSIs are designated National Nature Reserves (NNRs) (Figure 3-3). Virtually all SSSIs also have international designation under European Habitats and

Broads Authority Safety Management System

Birds Directives and Ramsar Convention on Wetlands (Figure 3-4). For more on the legislation see section 3 in this Appendix.

- 3.7.2 The Broads, apart from having many designated sites for nature conservation, is also important for wildlife throughout its area, with land and water managed for both biodiversity and landscape. Often, hydrological connections between the waterways, fens and grazing marsh dykes will result in pollution in one part of the wetland affecting a wide area.
- 3.7.3 Biodiversity Action Plans, derived from the UK's ratification of the Convention on Biological Diversity, give guidance and targets for species and habitat management and protection.
- 3.7.4 The Water Framework Directive establishes a framework for protection of surface water, groundwater, and coastal and transitional waters. Targets are set to protect and improve the ecological status of the water bodies.

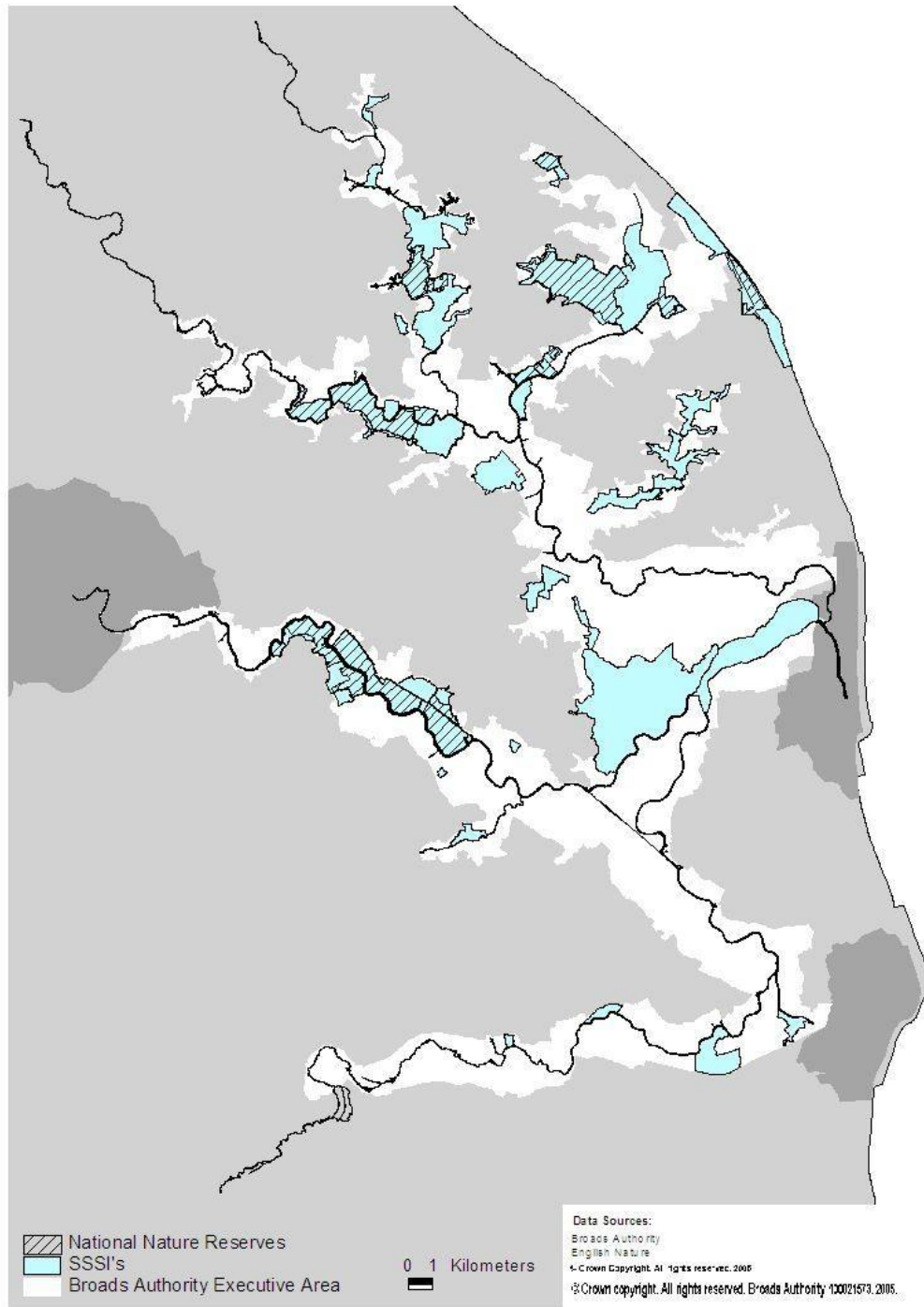


Figure 3-3: Network of SSSIs and NNRs in the Broads

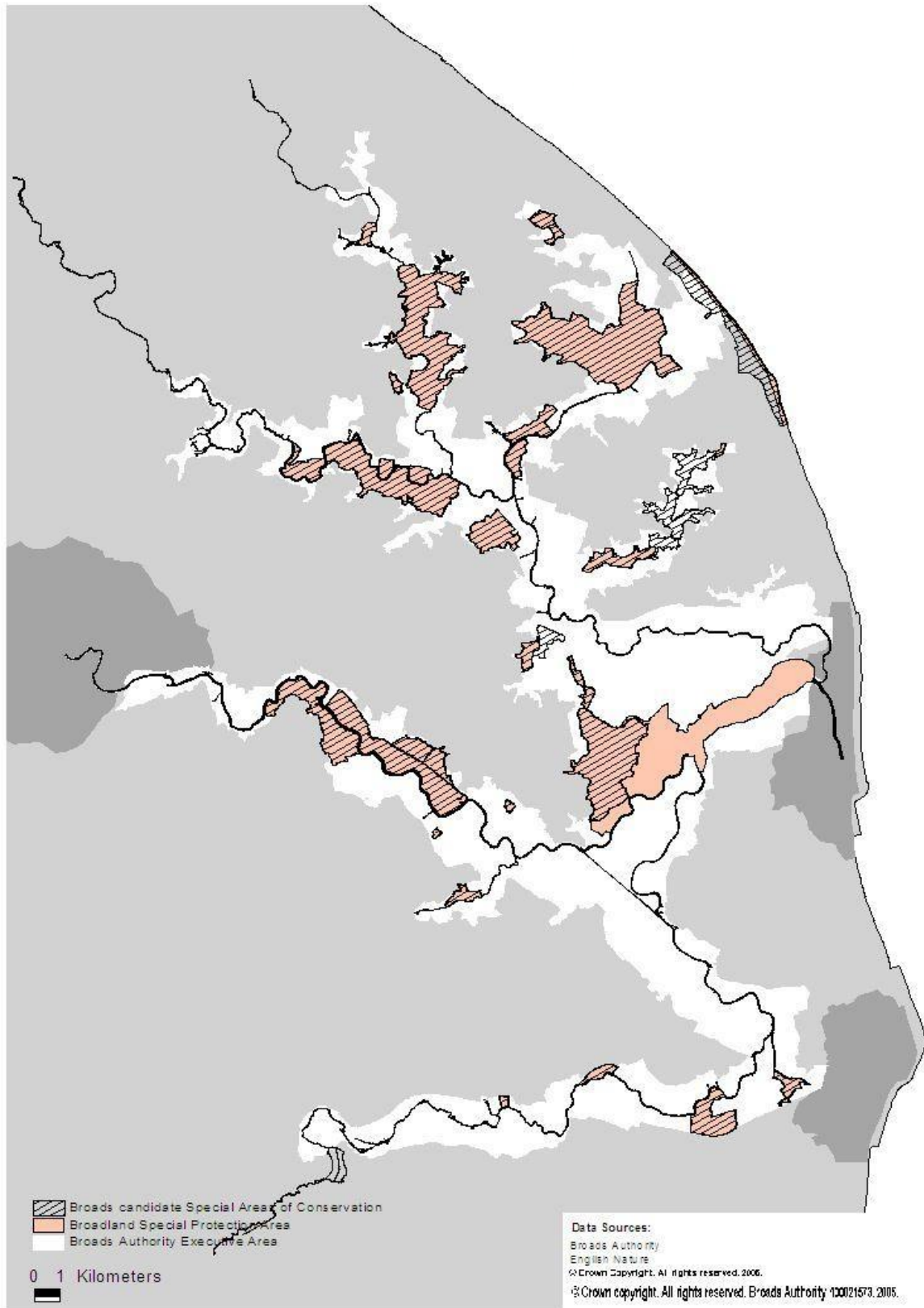


Figure 3-4: SSSIs that are also of European Importance

4 Consultation

PORT
MARINE

Organisations should consult, as appropriate, those likely to be involved in or affected by the MSMS system they adopt. This opportunity should be taken to develop a consensus about safe navigation in the harbour or facility.

Section 2.17

4.1 Introduction

- 4.1.1 The implementation of the Safety Management System will affect a wide variety of stakeholders.
- 4.1.2 This section of the SMS describes the mechanisms in place for consultation, and how, in particular, consultation will be handled for this SMS.

4.2 Navigation Committee

- 4.2.1 The role of the Navigation Committee is to reflect the position as set out in the Broads Act. Its purpose is to comment on and advise the Authority on matters relating to the strategic management of the waterways. The Navigation Committee is the statutory scrutiny and consultation forum for issues relating to protecting the interests of navigation, which includes safety issues.
- 4.2.2 Members of the public have the opportunity to attend and give notice to raise questions at meetings of the Navigation Committee, or at any of the Authority's formal committee meetings (see 2.1.4).
- 4.2.3 The membership of the Navigation Committee is defined in the Broads Act, and consists of thirteen members as follows:
- l. Five members of the full Authority;
 - m. Two persons representing the interests of hire boat owners;
 - n. One person representing the national interests of private boat owners;
 - o. One person representing the local interests of private boat owners;
 - p. Two persons representing the interests of passenger and goods shipping;
 - q. One person representing other interests.
 - r. One person appointed by the Great Yarmouth Port Authority
- 4.2.4 The Committee receives advice from officers of the Authority who also attend.

4.3 Boating Safety Management Group

- 4.3.1 The Boating Safety Management Group was established to evolve in detail the policy and processes on which the SMS is to be based.
- 4.3.2 The Group is chaired by a member of the Authority (as a representative of the Duty Holders), with membership including the Director of Operations, the Head of Safety Management (“Designated Person”), Head of Ranger Services, the membership of the Group also includes representatives from the Navigation Committee and outside bodies with a particular interest and involvement in boating safety issues.
- 4.3.3 The Group reports directly to both the Full Authority and the Navigation Committee on a regular basis.
- 4.3.4 The Terms of Reference for the Group were reviewed in 2012 and have been approved by the Authority. The terms of reference provide the formal nomination of the “Designated Person” (Reference 20).
- 4.3.5 The Group has a supervisory role, in consultation with relevant interests, for the implementation and maintenance of this Safety Management System.

4.4 Broads Forum

- 4.4.1 The Broads Forum is a consultative forum, which acts as a reference group to offer advice and comment on the Broads Authority's strategic aims and objectives. It promotes closer liaison and understanding between the various interest bodies and organisations, which have an interest in the Broads and its wider catchment area.

4.5 Broads Local Access Forum

- 4.5.1 The Broads Local Access Forum is a statutory advisory body to provide guidance and advice to relevant authorities on the improvement of public access to the countryside of the Broads Executive Area and to contribute to opportunities for the enjoyment of the area. The Forum also acts as a reference group to offer advice and comment on the Broads Authority's relating to access land, exclusions, restrictions and the appointment of access wardens on land where new rights of access exist.

4.6 SMS Potential Stakeholders

4.6.1 Table 4 -1 below represents a proposed list of stakeholders who should be consulted about various elements of the SMS. The list is not necessarily exhaustive, and it is not proposed that all stakeholders should comment on all aspects of the system.

OTHER HARBOUR AUTHORITIES
Great Yarmouth Port Company
AB Ports – Lowestoft
STATUTORY / LEGISLATIVE BODIES
Environment Agency
Defra
Natural England
Maritime and Coastguard Agency
Association of Inland Navigation Authorities
SPECIAL INTEREST GROUPS
Broads Hire Boat Federation
British Water Ski and Wakeboard
British Marine Federation
Inland Waterways Association
Association of Pleasure Craft Owners
Norfolk and Suffolk Boating Association
Royal Yachting Association
British Canoe Union
British Rowing
LOCAL COUNCILS
Norfolk County Council
Suffolk County Council
North Norfolk District Council
Waveney District Council
Broadland District Council
Great Yarmouth Borough Council
South Norfolk Council

Table 4 -1: SMS Stakeholders List

4.7 Consultation Process

- 4.7.1 The Authority has published a “Statement of Community Involvement” (Reference 21) as part of the Broads Local Development Framework.
- 4.7.2 Whilst this statement principally relates to planning matters, the sections on consultation (Chapters 5 and 6 of the Statement) may be applied to consultation on any subject. These describe the Authority’s approach to consultation, identification of hard-to-reach groups who may require to be consulted, and the means by which the consultation will be publicised.
- 4.7.3 It is proposed that the guidelines in Chapters 5 and 6 of the Statement of Community Involvement are followed in the consultation regarding the development of this Safety Management System.

5 Conservancy

5.1 Introduction

PORT
MARINE
SAFETY
CODE

A harbour authority has a duty to conserve the harbour so that it is fit for use as a port, and a duty of reasonable care to see that the harbour is in a fit condition for a vessel to utilise it safely.

Section 3.6

5.1.1 This section of the SMS describes the issues relating to conservancy of the navigation area of the Broads, and describes the Authority's approach to managing these issues.

5.2 Responsibilities

5.2.1 The Port Marine Safety Code states that the harbour authority has a duty to conserve the harbour so that it is fit for use.

5.2.2 The Broads Act gives the Authority the duty to maintain the navigation area for the purposes of navigation to such standard as appears to it to be reasonably required, and take such steps to improve and develop it as it thinks fit.

5.3 Management of Hydrography

PORT
MARINE
SAFETY
CODE

Harbour authorities duties include:

- To survey as regularly as necessary and find and mark the best navigable channel
- To keep proper hydrographic and hydrological records;
- To ensure that hydrographic information is published in a timely manner

Section 3.6

5.3.1 A comprehensive hydrographic survey of all areas of the Broads (with the exception of Breydon Water) was conducted for the Broads Authority by Broadland Environmental Services Ltd (BESL) during October 2005.

5.3.2 Continued hydrographic monitoring and surveying has proceeded over the years. This monitoring covering the lower reaches every two years, and the other areas no less than every five years.

5.3.3 The Authority is duty bound to provide hydrographic information to its port users however the United Kingdom Hydrographic Office, the organisation who prepare admiralty charts, do not require the Authority to publish the data to them as they would not prepare charts for an inland area which had such infrequent commercial traffic and where the Authority provided a mud pilot in such rare events.

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- 5.3.4 The Authority publishes up to date hydrographic data for the whole of the Broads area on its website, this data includes notes on navigating each area of the Broads network.
- 5.3.5 A Waterways Specification (Reference 22) has been drawn up identifying the recommended channel depths and widths for all areas of the Broads. The survey revealed that many areas do not currently meet this specification. A Sediment Management Strategy (Reference 23) has been produced, which established a regime of dredging across the Broads. Areas will be prioritised according to a range of criteria, including need.
- 5.3.6 The Broads Plan 2017 sets out objectives to reduce the sediment input into the Broads river system at a catchment wide level. The objective also seeks to sustainably re-use or dispose of dredged material. The Authority is working with local landowners and farmers on management techniques to reduce run-off from fields. And in recent years has pioneered the reuse of sediment for bank re-creation and conservation benefit. Ref 16 “Aspiration 3”
- 5.3.7 The Rangers respond to specific instances of sedimentation or shoaling reported by users of the Broads, and will mark shallow areas with buoys or posts.
- 5.3.8 The Authority has developed a Hydrographic Policy see figure 5-1.

5.4 Tidal Heights and Streams

- 5.4.1 The Rivers Yare, Bure and Waveney empty directly into the sea at Great Yarmouth, and are strongly tidal. At Great Yarmouth itself, the difference between high and low tide can be as much as 2.2m, with strong tidal currents flowing.
- 5.4.2 The strong tidal flow introduces hazards for navigation, for example on the approach to obstacles such as bridges, especially for inexperienced helmsmen, and the tidal range means that certain areas are only navigable at certain states of tide. Areas such as the mud flats of Breydon Water are under water at high tide but not navigable at any time, resulting in the risk of grounding.
- 5.4.3 To mitigate this risk, the Broads Authority maintains channel markings in certain areas. Examples are Rockland Broad, Barton Broad and Hickling Broad, as well as the lower reaches of the rivers Yare and Bure and Breydon Water.
- 5.4.4 The Authority also publishes tide tables, in the form of an annually-published booklet, and monthly tide tables are placed on the Broads Authority website. Information is also published, both online and in “The Broadcaster” visitor newspaper, providing advice on navigating the strongly tidal area upstream of Great Yarmouth.

- 5.4.5 A safety leaflet has been produced which deals with specific safety issues and advice relating to crossing Breydon water this information is replicated in the free visitor publication "The Broadcaster".

5.5 Management of Aids to Navigation

- 5.5.1 In certain areas of the Broads, aids to navigation have been put in place, including marker posts and buoys. These mark safely navigable channels in accordance with the Waterways Specification across shallow Broads, examples being Rockland Broad, Hickling Broad and Breydon Water.
- 5.5.2 The Authority is in the process of establishing a GIS-based inspection system for all navigation and land based assets. This will set out frequency and responsibility of inspections, and be used to produce annual maintenance programmes.
- 5.5.3 It is proposed that the GIS inspection system for aids to navigation is introduced, and its use documented in a formal procedure. This procedure can then be referenced in a future issue of the SMS.
- 5.5.4 The proposed GIS inspection system will replace the paper based "Navigation Works Reports" system currently in use.

5.6 Management of Trees and Scrub

- 5.6.1 The Authority has a published policy on the management of trees and scrub which sets out standards for the clearance of trees adjacent to the river corridor. (Reference 24)
- 5.6.2 There are many trees on land managed by the Authority which have potential to impact either third party property or the navigation. A policy for the management of trees (Reference 25) has been developed which sets out inspection and intervention regimes. The Rangers and Environment officers carry out regular checks on trees to identify any potential faults and arrange for corrective action to be taken. Trees on Broads Authority managed land are checked following an "amber warning for wind" issue by the meteorological office.

Figure: 5-1 Broads Authority Hydrographic Policy

Broads Authority Hydrographic Policy

In accordance with the Port Marine Safety Code, the Broads Authority has a duty to maintain safe navigable channels throughout its area of operation.

It is the Authority's policy that it will:

- a) Maintain a 5 year programme of hydrographic surveys, conducted in accordance with Broads Authority specification, of the navigation area, covering the navigable extents of the Broads;
- b) Use the outcome of the surveys to prioritise and inform the dredging programme detailed in the Sediment Management Strategy Action Plan, in accordance with the waterways specification;
- c) Mark safe channels in areas of particular danger, but with due regard for conservation of the natural beauty of the area;
- d) Ensure that those conducting hydrographic surveys, whether Broads Authority employees or third party contractors, are appropriately equipped, trained and competent to undertake the work;
- e) Maintain forecast tidal data information via the Broads Authority website, and at yacht stations and visitor centres;
- f) Publish Hydrographic survey data on the Broads Authority website and in cruising notes.
- g) Keep this policy under review as part of the planned monitoring and auditing of the Safety Management System Action Plan;
- h) Act in a proportionate and timely manner to address any perceived shortfalls in this policy.

6 Management of the Navigation

6.1 Introduction

6.1.1 This section of the SMS describes the Broads Authority's approach to the management of navigation. This includes the use of legally-granted powers, byelaws, policies, procedures, codes of practice and guidance.

6.2 Responsibilities

6.2.1 Under the Broads Act, the Broads Authority is the navigation authority for the Broads navigation area. The Pilotage Act also designates the authority as a "competent harbour authority", with the power to make Pilotage Directions.

6.2.2 The Broads Authority Act 2009 (Reference 9) granted extra responsibilities relating to the management of safety on the Broads including the following provisions relating:

- a) The power to give general directions to all vessels, or particular classes of vessels, for example to designate safe navigation routes, directions to regulate mooring within the Authority's navigation jurisdiction, directions to regulate the towing of vessels.
- b) The giving of special, i.e. one off, directions to vessels in one off cases. This will extend the existing powers in the 1988 Act to deal with safety issues where the existing provisions have proved ineffective.
- c) The power to designate construction and equipment standards for vessels allowing for the continuation of application The Boat Safety Scheme previously introduced into the Broads in 2007 by byelaws.
- d) The power to introduce compulsory third party insurance for vessels.
- e) Powers to require the licensing of pleasure boats let for hire to the public
- f) Powers to better regulate water skiing and wakeboarding in the Broads.
- g) Powers to deal with overhanging vegetation that poses a hazard to navigation.
- h) The removal of the requirement to have a separate navigation account dealing purely with navigation income and expenditure.

6.2.3 The Authority also has many other responsibilities including promoting the enjoyment of the Broads by the public. The Authority aims to strike a balance between these responsibilities.

6.3 Byelaws

6.3.1 In accordance with the Broads Act, Byelaws relating to the use of land are made in consultation with the Natural England, and all Byelaws are confirmed by the Secretary of State for the Environment.

6.3.2 The Broads Authority has made five sets of Byelaws relating to the use of the Broads, under the provisions of the Broads Act. They are as follows:

- s. Navigation Byelaws, 1995 (Reference26). These are general byelaws covering Steering & Navigation, Lighting, Signals, Mooring & Anchoring etc.
- t. Vessel Dimension Byelaws, 1995 (Reference27). These specify the maximum length and beam of vessels which are permitted to navigate within the Broads. These dimensions vary for different areas of the Broads.
- u. Speed Limit Byelaws, 1992 (Reference 28). These specify the maximum speed limits applicable within the Broads. The speed limit varies between 3 and 6 miles per hour, and was introduced principally to limit the effect of wash on other vessels, and reduce erosion of the banks, however the limits also enhance safety. The Byelaws also identify zones where commercial boat testing may take place, during which activity the speed limits may be legally exceeded.
- v. Vessel Registration Byelaws, 1997 (Reference 29) . These byelaws govern the registration of vessels, and the payment of dues to the Broads Authority.
- w. Boat Safety Standards Byelaws 2006. These byelaws formalise the requirement to comply with the national Boat Safety Scheme within the Broads. (Reference 54) However these byelaws have been revoked following the introduction of the Boat Safety Scheme requirements via the Construction Standards provision in the Broads Authority Act 2009.

6.3.3 A byelaw was made by the East Suffolk and Norfolk River Authority in 1969 relating to control of pollution in the Broads by sanitary appliances on boats. This byelaw remains in force. (Reference 30)

6.4 Directions

Special Directions

- 6.4.1 The Authority has the power to make Special Directions to a particular vessel, for the purpose of ensuring the ease, convenience or safety of the navigation or the safety of persons or property in the navigation area.
- 6.4.2 The Broads Authority Act 2009 sets out that special directions can only be given by the Authority's Navigation officer, the Authority has appointed the Head of Ranger Services as Navigation officer.
- 6.4.3 A procedure for the issue of Special directions is set out in operational procedure OP-6-4-2 (Reference 31)

General Directions

- 6.4.2 The Authority has the power to make General Directions to all vessels, or particular classes of vessels, in respect of vessels in, or proposing to enter, or leaving, the navigation area for the purpose of promoting or securing conditions conducive to the ease, convenience or safety of navigation and the safety of persons and property in the navigation area. A detailed procedure for the consultation, issue and publication of such direction is set out in the Broads Authority Act 2009 Schedule 1 (Reference 9)
- 6.4.3 The Authority has set out a policy relating to General Directions this policy is captured in an operating procedure OP-6-4-1 (Reference 32)

6.5 Harbour Patrols

- 6.5.1 The Broads Authority has a team of Rangers who provide the harbour patrol function in 8 patrol vessels. The Rangers main duties include:
- providing advice and guidance to users
 - maintaining a visual presence in the port area, and in so doing representing the Navigation Officer on the water;
 - enforcing byelaws and Directions;
 - collecting evidence following an incident and conducting preliminary investigations;
 - conducting spot checks on vessel navigational documentation;
 - assisting craft in difficulty, and responding to other emergencies;
 - acting as Forward Control/On-Scene Commander respectively during port emergencies and SAR incidents;
 - escorting vessels as required (e.g. vessels restricted in their ability to manoeuvre);

- control and directing vessel traffic (e.g. during partial port closures);
- monitoring craft licensed by the Broads authority;
- monitoring channel marker and other navigation lights and aids; and conducting routine surveillance of licensed works and moorings.

6.5.2 Best Value targets have been set in consultation with the Navigation Committee relating to the number of patrols made in each area of the Broads network. Patrol frequency is monitored to ensure compliance with the agreed standards. Rangers also provide a patrol service to the land based sites that the Authority manages.

6.6 Policies

6.6.1 The Authority has set out a formal Navigation Safety Policy, which has been endorsed by the members of the Authority. This policy is given in full in section 1.7 of this SMS.

6.6.2 The Broads Authority has a policy regarding the bringing of prosecutions against offenders when it is appropriate to do so. (Reference 33)

6.6.3 The Broads Authority has a policy regarding the towing of vessels. The policy is given in full in section 8.5.

6.6.4 The Broads Authority has a policy regarding the publication of weather forecasts and weather warnings and is given in full in section 3.4.

6.6.5 The Broads Authority has a policy for pilotage which is given in full in section 7.1

6.6.6 The Broads Authority has a policy for the training of marine operational and management personnel; the policy is referenced in 2.5.

6.6.7 A policy for hydrographic surveys is published by the Authority and is given in full in section 5.3. A discussion of survey arrangements can be found at section 5.3.

6.6.8 A Moorings Safety Policy has been defined, and is included in the Mooring Strategy (Reference 34). The policy is discussed at section 8.3 of this SMS.

6.6.9 A Bridges policy for the installation of gauge height boards and the provision of de-masting moorings has been defined. This policy is given in full in section 8.9 of this SMS.

6.6.10 A Blue light policy relating to the use of blue flashing lights by rescue and emergency organisations has been defined. This policy is given in full in section 8.10 of this SMS.

6.7 Notice to Mariners

- 6.7.1 The Broads Act 1988 requires that Notices to Mariners are published whenever navigation is restricted or suspended for any reason - principally due to maintenance works. Notices are published in the local press, and on the Broads Authority's website, 35 days in advance of the date of the works.
- 6.7.2 The Navigation Area Works Guidance (Reference 35) requires contractors to apply for publication of a Notice to Mariners for works that significantly affect navigation - e.g. severe height or width restrictions, or river closure. Because of the busy nature of the Broads, closures are not permitted unless unavoidable.

6.8 Publications Promoting Boat Safety

The Broadcaster

- 6.8.1 The Broadcaster is a free visitor guide published annually around Easter by the Broads Authority. It is a free newspaper containing articles of interest relating to the Broads (e.g. recent conservation work), essential boat safety advice including emergency arrangements, tide tables as well as guides on things to do, places to eat, etc.
- 6.8.2 The Broadcaster is made widely available to visitors to the Broads, including placing copies at all boatyards and in local shops, restaurants etc. A copy can also be requested online.

Safety Video

- 6.8.3 A video has been produced covering basic boat handling techniques and promoting boat safety which boaters may purchase, or which boatyards may show to hirers during the show-out. The video is available to both private boat owners and to hire companies to make available to hirers, the video has been placed on the Broads Authority website and hire companies have been encouraged to create links from their own websites.

Other publications

- 6.8.4 The Broads Authority publishes a number of leaflets promoting safety and codes of conduct for users which are widely available, these include:
- Angling
 - Bridges
 - Crossing Breydon
 - Sailing
 - Rowing and Canoeing
 - Mooring
 - Boat Wash

Waterskiing
Basic Safety Advice "Go Safely"
Winter Boating
Day Boats

6.9 Permits

6.9.1 Water skiing is permitted in certain areas at certain times on the Broads; The Authority has a permit scheme (Reference 3) to regulate waterskiing and wakeboarding on the Broads. These permits are granted following compliance with rigorous requirements and the permits themselves set a number of conditions to regulate the activity.

6.10 Procedures

6.10.1 Standing Orders have been produced for the Mud Pilot (Reference 36), for the passage of commercial traffic to Cantley.

6.10.2 Complementary Standing Orders have also been produced for the Broads Authority launches which accompany large coasters navigating to Cantley (Reference 37).

Navigation Area Works Guidance

6.10.3 The Navigation Area Works Guidance (Reference 20) has been published to advise anyone wishing to carry out work within the Broads area of legislative requirements, provide practical health and safety advice, and highlight other possible considerations.

6.10.4 Although titled as "guidance", this document in fact contains mandatory procedures for the issuing of Works Licences. The Broads Act 1988 gives the Authority the power to require a Works Licence to be applied for prior to any work being undertaken, and to determine whether or not such a Licence should be granted.

6.10.5 It defines the general requirements that contractors must comply with, along with specific requirements for certain types of work, e.g. diving, towing etc.

6.10.6 It should be noted that the Navigation Works Guidance does not apply to Statutory Undertakers such as contractors working on behalf of the Environment Agency on the Broadland Flood Alleviation Project

Other procedures

6.10.7 A Management plan has been developed jointly with the Lowestoft and Oulton Broads Motor Boat Club (Reference 38) with regard to the regulation of navigation on Oulton Broad during power boat races. The management plan will be reviewed on an annual basis.

- 6.10.8 A set of conditions relating to a concessionary toll have been developed for commercial operators of canoes for hire to the public covered under the Authority's Broads Authority Paddling Scheme(Reference 39). These conditions include a variety of safety matters including requirements for the inspection of equipment and appropriate briefings for the hirers.
- 6.10.8 A Code of practice (reference 40) has been developed relating to the use of coaching vessels used by the Norwich rowing clubs in an effort to reduce potential conflict with other river users
- 6.10.9 Procedures for Broads Authority workboats and launches have been developed and for vessels and equipment including daily and weekly check lists (Reference 41 and 42)
- 6.10.10 Procedures relating to the implementation of provisions of the Broads Authority Act 2009 have been developed in consultation with the Navigation Committee. Including
- Special Directions
 - Entry and Inspection of Vessels (Hazardous Boat Checks)
 - Removal of unsafe Vessels
 - Removal of Vegetation
 - Requests for information
 - Entry onto Land
 - Construction Standards (Boat Safety Scheme)
 - Hire Boat Licensing
 - Compulsory third party insurance cover

6.11 Licensing

- 6.11.1 The arrangements for registration of boats with the Broads Authority do not contain any element of licensing. The issue of a registration number merely indicates that the vessel has been registered, and does not imply that the vessel has been inspected or approved.
- 6.11.2 The Licensing of motorised vessels which are let for hire to the public came into force in 2010, the License requires hire boat operators to have successfully demonstrated via a stability test or calculation that their vessels are capable of carrying the number of persons that they are licensed to carry. The license conditions (Reference 43) which are based on the Code for Design, Construction and Operation of Hire Boats (Reference 44) include such topics as risk assessment, the safety of the boat, handover procedures ("Show-out" to a hirer) and the Boat Safety Scheme.
- 6.11.3 Currently the Authority has no licensing regime for unpowered vessels which are let for hire to the public. It is the intention of the Authority that Licensing conditions will

be developed following the publication of a national code relating to unpowered craft let for hire.

- 6.11.4 Small Passenger boats are operated on the Broads and the Authority introduced a licensing scheme in 2012 for vessels carrying no more than 12 passengers from April 2012. Licensing conditions (reference 45) are based on the requirements of the Inland Waters Small Passenger Boat Code (Reference 46)

7 Pilotage

PORT
MARINE
SAFETY

Under the Pilotage Act 1987, a Competent Harbour Authority (“CHA”) has a duty to assess what, if any, pilotage services are required to secure the safety of ships, and to provide such services as it has deemed necessary

Section 4.11

7.1 Introduction

- 7.1.1 This section of the SMS describes the Broads Authority’s approach to pilotage, and identifies any areas within the navigation area where pilotage may be necessary.
- 7.1.2 The navigation area of the Broads is unusual compared to a commercial port, in that the area is large, there is little commercial traffic, and the majority of traffic remains within the navigation area. This contrasts with a port where vessels are continually arriving, loading and leaving on strict timetables.
- 7.1.3 Nevertheless, the Authority recognises its responsibility with regards to pilotage, provides appropriate measures and has developed a Pilotage policy figure 7-1 below.

Figure 7-1: Broads Authority Pilotage Policy

Broads Authority Pilotage Policy

The Broads Authority (BA) is a Competent Harbour Authority (CHA) within the meaning of the Broads Authority (Pilotage Powers) Order 1991 and publishes Pilotage Directions. There are currently no circumstances in which pilotage has been declared compulsory under the terms of the Pilotage Act.

It is the Authority's policy that it will:

- a) Review the need for pilotage at least annually. This will include reviewing any extant Pilotage Directions, and will take into account any changes in the status quo with regard to large commercial vessels' usage of the Broads.
- b) Ensure that the operation of the pilotage service is compliant with national regulations, guidelines and competency standards;
- c) Ensure that the Standing Orders for pilots and the accompanying Authority launches are kept up-to-date and accurate
- d) Ensure that pilots employed or authorised by the Authority meet the requirements of National Occupational Standard 5;
- e) Employ succession planning to ensure that an authorised and qualified pilot is always available should the requirement arise;
- f) Ensure that the means of boarding and landing pilots are regularly reviewed to ensure that these operations are always undertaken as safely as possible;
- g) Share pilotage information with other users or authorities via relevant fora;
- h) Keep this policy under review as part of the planned monitoring and auditing of the Safety Management System;
- i) Act in a proportionate and timely manner to address any perceived shortfalls in this policy.

7.2 Responsibilities

- 7.2.1 The Broads Authority (Pilotage Powers) Order 1991 (Reference 8) confirms the Authority's status as a "competent harbour authority" as defined under the Pilotage Act 1987. As such, it has a duty to determine whether any and, if so, what pilotage services need to be provided to secure the safety of ships navigating in or in the approaches to its harbour; and whether such pilotage should be compulsory.
- 7.2.2 This duty is reinforced in the Port Marine Safety Code, which goes on to state that authorities should exercise control over the provision of pilots by means of controlling recruitment, examination and authorisation of pilots.

7.3 Requirements for Pilot and Pilotage Directions

- 7.3.1 There is one circumstance in which pilotage is provided by the Broads Authority. In this circumstance, pilotage is strongly recommended, but has not been made compulsory by means of a Pilotage Direction.
- 7.3.2 Occasionally, vessels navigate from Great Yarmouth along the River Yare to the sugar beet factory at Cantley. Seagoing vessels are strongly encouraged to use the services of the Mud Pilot. The Mud Pilot manages the entire journey, including the passage of Breydon Water, coordinating the journey departure time with the opening of the Reedham Swing Bridge, and assisting with navigation of several sharp bends in the river. One or two Broads Authority launches accompany the coaster, to ensure that vessels ahead of the coaster are aware of its approach, and that vessels are moved from moorings on the sharp bends. These launches operate to their own published procedures (see section 6.9). It is several years since such a passage last occurred, and the future of this activity is currently in doubt.
- 7.3.3 In 2014 there were two occasions where pilotage was provided to third parties the first a large barge carrying plant to Cantley was piloted by the Broads Authority during the transit. Additionally a historic trading barge the Cumbria also required pilotage on key sections of the navigation.
- 7.3.4 There are also two bridges where pilotage is available. The Broads Authority believes that pilotage is not necessary for experienced helmsmen to safely navigate these bridges. However it is accepted that the majority of hire vessels helmed by novices. As such, the hire boat operators have provided pilotage services to protect their own assets and to assist their customers. The Broads Authority does not authorise or regulate these pilots.

Potter Heigham Bridge

- 7.3.5 Potter Heigham Bridge is an ancient road bridge that spans the River Thurne. The tide flows quickly through the bridge. At high water the clearance is too small for most craft to pass under the bridge. Pilotage is mandated by some hire operators for

BROADS AUTHORITY SAFETY MANAGEMENT SYSTEM

most of their hire craft although private craft can freely pass under the bridge. Pilotage is available for helmsmen of privately-owned vessels at a charge.

Wroxham Bridge

7.3.5 This ancient road bridge spans the River Bure at Wroxham. Tidal streams are gentle and there is a very small range of tide, influenced more by rainfall/fluvial flow than by tidal action. However, the area is very congested in summer and the bridge is on a bend in the river. Pilotage is available but not mandatory. A fee is charged for this service.

Works Pontoons/Vessels

7.3.6 The Navigation Area Works Guidance advises contractors of the potential need for the Mud Pilot if movements of very large vessels are to be undertaken. In practice, such vessels are not usually piloted, but escorted by Broads Authority launches.

7.4 Authorisation of Pilots

PORT
MARINE
SAFETY
CODE

A CHA may authorise suitably qualified pilots in its area. Authorisations may relate to ships of a particular description and to particular parts of the harbour

Section 4.13

- 7.4.1 Pilots at Potter Heigham and Wroxham Bridges are provided by nearby boat yards. They are neither required by, nor authorised by, the Broads Authority.
- 7.4.2 The Mud Pilot for coasters is employed by the Broads Authority on an ad hoc basis, and has extensive experience of many such journeys, as well as holding a Coastal Skipper Ticket. The Mud Pilot works to published Procedures, described in section 7.5 below.
- 7.4.3 The Mud Pilot was formally a full time employee of the Broads Authority but has now retired; a replacement has been identified, and has received relevant training.
- 7.4.4 Compliance with the PMSC will be via the following approach;-
- a) The training of the Broads Authority Mud Pilot to National Occupational Standard for Marine Pilotage

7.5 Pilotage Procedures

- 7.5.1 Detailed procedures have been prepared by the Broads Authority covering all aspects of the journey. The Standing Orders for Broads Authority Mud Pilots (Reference 36) details the responsibility of the Pilot prior to and during the journey, and provides contact details for relevant stakeholders, such as swing bridge operators, and the Broads Authority Broads Control.

7.6 Pilotage Exemption

- 7.6.1 No pilotage exemption certificates have been awarded by the Authority. Because there are no formal pilotage directions, there has been no requirement to consider exemption. A procedure for the issue of pilotage exemption certificates will be developed by the Authority in the event that such an activity appears likely to occur.

8 Marine Services

Guide to Good
Practice on
Port Marine

An authority's Safety Management System should cover the use of harbour craft and the provision of moorings.

Section 12.8.1

The authority should ensure that harbour craft are fit for purpose, and the crew appropriately trained and qualified.

Section 11.1.2

8.1 Introduction

8.1.1 This section of the SMS covers the provision of Marine Services by the Authority. Marine Services are defined as support services available in a harbour, such as tugs, workboats, pilot launches and moorings.

8.2 Responsibilities

8.2.1 The Authority has a responsibility under the Broads Act to protect the interests of navigation. In support of this, it has the power to provide and maintain moorings throughout the navigation area.

8.2.2 The Authority also has a duty under the Pilotage Act to ensure that workboats are maintained in good order.

8.2.3 The Authority has a duty of care under the Health and Safety at Work Act 1974 to maintain its workboats in good order, and to ensure that personnel operating them have received appropriate training.

8.3 Moorings

8.3.1 The Broads Authority is responsible for the provision and maintenance of a network of approximately 60 "twenty-four-hour" moorings. This means moorings at which it is permissible to moor no more than 24 hours, as opposed to temporary moorings, which are for short term use only e.g. for sailing boats to raise or lower their sails and or mast.

8.3.2 The Broads Authority has published a Mooring Strategy document (Reference 34) which outlines the Authority's approach to the management of all moorings, to include temporary moorings and staithes as well as the 24-hour moorings.

8.3.3 The 24-hour moorings have been classified according to the facilities available, from “Flagship” where amenities such as toilets and showers are available, to “Wild”, which are alongside rural uninhabited land. Risk assessments have been completed for all of the Broads Authority managed moorings, quantifying the risk of falling into the water, and noting the controls in place at each mooring and public rescue equipment (e.g. ladders, chains/ropes, etc.)

8.3.4 The moorings are inspected by the Rangers on a fortnightly or monthly basis, in accordance with the mooring’s Management Plan. Inspections are conducted using an electronic check facility based on the Authority’s GIS system. This system then forwards any deficiencies (issues) to those staff responsible for repair and maintenance. Once repairs are complete the Rangers close down the “issue when they next inspect the facility.

8.3.5 The Mooring Strategy contains the Moorings Safety Policy, as follows:

The Broads Authority has a commitment to ensuring the safety of users of the 24hr moorings network and will develop a 24hr mooring site management plan for each of its sites. This will be done in conjunction with the Rangers, and include an agreed inspection regime, agreed routine maintenance specification, development plans, risk assessment, property holding details and a site plan. A process for the generic risk assessment of all Broads Authority moorings has been developed and this has led to the identification of improved safety measures, which will be incorporated into all new sites when developed. Further, the Broads Authority is committed to ensuring that moorings are adequately spaced to allow reasonable facilities in the event of emergency, and considers 30 minute spacing appropriate.

8.3.6 There is a temporary mooring at Mutford Lock, provided to enable boats to moor whilst waiting for the lock, which is provided by the Broads Authority, but is outside of the Authority’s navigational area. This mooring has no access to land, and is now managed by the operators of Mutford Lock on behalf of the Broads Authority.

8.3.7 The Authority provides where possible moorings for the purpose of raising and lowering sails and mast in the immediate vicinity of the bridges around the Broads system see section 8.9 of this SMS.

8.3.8 There are also many private moorings and staites, which are not maintained by the Authority. The Broads Act gives the Authority the power to demand that owners make improvements where there is a danger to navigation.

8.4 Workboats and Launches

8.4.1 The Broads Authority owns and operates a number of small workboats, as below. Passenger craft are dealt with separately at section 8.7.

- a) Eight Broads Authority launches and one RIB, for the purpose of patrolling, escorting, offering assistance and enforcement.
- b) Three self-propelled workboats;
- c) One dumb barges;
- d) Two weed harvester;
- e) Four sets Link float pontoons with excavators
- f) Six Powered Wherries
- g) Three Tugs
- h) A small number of dinghies;

8.5 Towing

8.5.1 The Broads Authority does not operate any tugs for the purpose of towing third parties. Broads Authority launches are occasionally used for towing duties (e.g. assisting marine casualties to a safe mooring).

8.5.2 The Broads Authority has published a policy for towing see figure 8-1 over.

Broads Authority Towing Policy

In accordance with the Port Marine Safety Code, the Broads Authority needs to lay down guidance for towing within the navigation area

It is the Authority's policy that it will:

- a) Respond to emergencies for recreational vessels if BA vessels are available providing that prevailing conditions are favourable.
- b) In cases of emergency, tow vessels to a safe mooring or safe situation or recover passengers and crew
- c) Maintain towing capability for recreational vessels in an emergency or access to such capability through a register of competent operators, for situations reasonably expected to be encountered on the Broads, and keep this capability under review;
- d) Develop and maintain risk assessments of towing activities for various types of boats (e.g. day boats, yachts, etc) in various circumstances (e.g. propulsion failure etc.);
- e) Ensure that Authority personnel involved in towing have appropriate equipment for the task, are suitably trained, and are competent;
- f) Ensure that any third parties employed by the Authority for towing activities have suitable equipment and are trained and competent to the same extent, in accordance with the BA towing specification
- g) Share towing information with other users or authorities via relevant fora;
- h) Keep this policy under review as part of the planned monitoring and auditing of the Safety Management System;
- i) Act in a proportionate and timely manner to address any perceived shortfalls in this policy.
- j) Require that towing of commercial vessel is in line with the requirements laid down in the Navigation Works Guidance

Figure 8-1: Broads Authority Towing Policy

8.6 Management of Contractors

- 8.6.1 Contractors operating in compliance with the SMS include Hydrographic survey providers, salvage operators, Tier 2 Oil spill response company and piling contractors. These contractors have their own safety management system and are subject to compliance monitoring, submission of risk assessments and method statements, periodic spot inspections and licensing by the Broads Authority where relevant.
- 8.6.2 The Broads Authority will ensure that all contractors are aware of:
- The importance of compliance with the safety policy and objectives, and their individual roles and responsibilities in achieving it;
 - The hazards and risks of marine operations, and the controls and recovery measures that have been established;
 - Potential consequences of departure from agreed procedures, i.e. from breaching established controls and recovery measures;
 - The mechanisms for suggesting improvement in the procedures.
- 8.6.1 Any such contractors are required to comply with the Navigation Works Guidance (Reference 35) and appropriate demonstration of crew competency.

8.7 Passenger Craft

- 8.7.1 The Broads Authority operates three passenger craft for the purpose of providing guided tours and trips to members of the public.
- 8.7.2 Each of these craft carries less than twelve passengers.
- 8.7.3 The boats have specified checks, which must be carried out on a daily and weekly basis. These exist for all the Authority's boats; by way of example the check sheets for the Electric Eel are included at Annex H.I
- 8.7.4 The MCA's Inland Waters Small Passenger Boat Code (Reference 46) applies to vessels that do not go to sea, and carry less than twelve passengers. The Code is a best practice guide rather than a statutory requirement and the Authority's passenger boats, crew and operation comply with the requirements of the code.
- 8.7.5 Stability tests have been conducted and recorded on all the Authority's passenger boats, and maximum passenger numbers defined accordingly.
- 8.7.6 The Broads Authority introduced a licensing scheme for small passenger boats in April 2012 and the Authority's passenger boats comply with this licensing scheme.
- 8.7.7 The Authority's passenger boats are regularly inspected and certified in accordance with the Boat Safety Scheme requirements.

8.8 Lifebuoys and Personal Rescue Equipment

8.8.1 Lifebuoys and personal rescue equipment are stationed at many locations on the Broads for use in an emergency. Where they are installed on Broads Authority owned or managed sites they are regularly checked (Reference 47). At Yacht stations they are checked daily,. those lifebuoys and rescue lines which are located on the Authority's 24 hour moorings are checked by the Rangers when completing the routine mooring inspections.

8.9 Bridges

8.9.1 There are several bridges over the rivers in the Broads Authority area which include, rail, road bridges some of which open to allow the passage of vessels. The clearance of these bridges is displayed on gauge boards to river users. Also as part of the Authority's Mooring Strategy de-masting moorings are provided where practical for sailing boat to raise and lower their masts.

8.9.2 The Broads Authority has published a policy for towing see figure 8-2 over

Broads Authority Bridge Policy

In accordance with the Port Marine Safety Code the Authority has a duty to manage safety at bridges.

This policy will apply to all bridges within the Broads Authority Navigation area with the exception of those bridges upstream of Foundry bridge on the river Wensum.

It is the Authority's Policy that it will:

- a) Publish bridge clearances in a consistent manner on the Authority's website, in the Authority's tide tables and its visitor publication the Broadcaster.
- b) Site gauge boards at both upstream and downstream sides of bridges indicating the current clearance under the bridge.
- c) Site advance gauge boards both upstream and downstream of bridges at an appropriate location.
- d) Provide advance signage of "bridge ahead" where sight lines are not adequate to present sufficient warning to users of the hazard of the bridge
- e) Where feasible provide a de-masting facility at each quadrant of fixed bridge to allow yachts to lower their masts prior to transit and to site these facilities at a suitable distance to bridges to allow unpowered boats to be manoeuvred.
- f) Where tidal risk demands during the summer months provide a ranger patrol on Breydon Water to provide advice and guidance seven days a week during the normal working day
- g) Review pilotage at bridges as part of the Hazard Review Process
- h) Assess proposals for new developments close to bridges to ensure that safety at bridges is not compromised
- i) Keep this policy under review as part of the planned monitoring and auditing of the Safety Management System
- j) Act in a proportionate and timely manner to address any perceived shortfalls in this policy.

Figure 8-2: Broads Authority Towing Policy

8.10 Blue Flashing Light

8.10.1 Byelaw 42 Broads Authority Navigation Byelaws 1995 states 'Except with the consent of the Authority the master of a vessel shall not cause or permit the vessel at any time to have fitted to it or to show a blue flashing light unless it is a vessel operated by the Authority, the Armed Forces, any other navigation or harbour authority or a public or local authority acting in a law enforcement or emergency role'.

8.10.2 The type and number of vessels using blue lights in the Broads has been increasing (in line with changes to organisations allowed to use blue lights on the roads) the Authority's has developed a policy on those permitted the use of blue lights on the Broads.

8.10.3 The Broads Authority has published a policy for Blue Lights see figure 8-3 over.

Broads Authority Blue Light Policy

In accordance with the Port Marine Safety Code the Authority has a duty to manage the use of flashing Blue Lights on the Broads.

This policy will apply to all vessels within the Broads Authority Navigation area.

It is the Authority's Policy that it will:

a) Permit the following organisations to use a flashing blue light in accordance with the Broads Authority Navigation Byelaw 1995 Byelaw

- Rescue boat organisations (including RNLI and independents)
- Mountain and Lowland Search and Rescue
- Police
- RAF mountain rescue
- National Blood Service
- HM Coastguard
- Forestry Commission for fire fighting
- Revenue and Customs for serious crime
- RNLI for launching lifeboats
- Military special forces (e.g. The SAS) for a national security emergency
- Fire brigade purposes
- Ambulance purposes
- Specialist company for fire salvage work
- Local councils for fire fighting
- Bomb disposal
- For Nuclear accidents
- For mine rescue
- For moving around human organs
- For mountain rescue purposes

and only in these circumstances

- at the scene of an emergency
- responding to an emergency
- wanting to let people know you are there
- wanting to let people know that there is a hazard

b) Review Blue light policy as part of the Hazard Review Process

c) Keep this policy under review as part of the planned monitoring and auditing of the Safety Management System

d) Act in a proportionate and timely manner to address any perceived shortfalls in this policy.

9 Hazards

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The duty holder on behalf of the harbour authority must:

- Ensure all risks are formally assessed and as low as reasonably practicable in accordance with good practice;

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(5)*

9.1 Introduction

9.1.1 This section of the SMS describes the Broads Authority's approach to the systematic identification, assessment and control of hazards, and the minimisation of the risks they pose to the public and to employees of the Authority to a level, which is as low as reasonably practicable.

9.2 Responsibilities

9.2.1 The Broads Act gives the Authority a duty, *inter alia*, of "protecting the interests of navigation". It is therefore important that hazards to navigation are identified, and appropriately managed.

9.2.2 In addition, the Management of Health and Safety at Work Regulations (1999) (Reference 48) require the Authority to make a suitable and sufficient assessment of all the risks to the health and safety of workers and others arising at or from a work activity.

9.3 Formal Risk Assessment

9.3.1 A structured approach to the identification and analysis of hazards, and the assessment of the risks they pose, is at the centre of any Safety Management System. The process is described in section 10.4. In accordance with the Port Marine Safety Code, this includes:

- a) The identification and analysis of risks.
- b) An assessment of these risks against an appropriate standard of acceptability;
- c) A cost effectiveness analysis of risk reducing measures where appropriate.

9.3.2 In May 2003, a Formal Safety Assessment (Reference 49) was undertaken on behalf of the Broads Authority. This assessment identified 28 hazards, and proposed risk reduction measures.

9.3.3 The methods used to identify hazards, and assess and mitigate risk, are described in section 10.

9.4 Discussion of the Existing Hazard Log

9.4.1 All of the hazards identified during the FSA have been formally reviewed as part of the ongoing development of the SMS. These reviews take place three yearly and their audience alternates between a full stakeholder group and the Boating Safety Management Group and or the Broads Local Access Forum. At each review the group review experience gained in the intervening year and reviews proposed actions and whether the status of the hazard has changed.

9.4.2 Integrated Hazard Review 2015/16 (Reference 50) records the outcome of the most recent reviews, and makes recommendations for prioritisation and further action.

9.4.4 Further formal hazard reviews are scheduled with the appropriate groups of stakeholders, to review the risk assessments and progress against actions, and to generate ALARP statements where possible.

9.5 Hazard Identification

9.5.1 The Hazard identification sheet (Reference 51) was used to record hazards at the 2003 FSA. This was conducted using the “Structured What If Technique” (SWIFT) however the sheet could easily be modified for other techniques such as HAZOPS (Hazard and Operability Study).

9.5.2 Such techniques are an ideal method of identifying hazards, since they gather together a group of suitably-qualified people to discuss the hazards. This provides assurance that the hazard is valid, and that the assessment of the hazard, and the safeguards proposed, are suitable.

9.5.3 Hazards may also be identified by any employee of the Authority, or indeed any person. Any hazard raised in such a way should be discussed and considered for inclusion in the hazard log. Decisions should be recorded to provide an audit trail.

9.5.4 The ongoing management of hazards identified by such processes is described in the next section.

10 Risk Assessment

10.1 Introduction

10.1.1 The conduct of a formal risk assessment is central to the effective operation of the Safety Management System. Risk assessments must also be conducted for specific activities undertaken by the Authority.

10.2 The ALARP principle

10.2.1 The principle of ALARP (As Low As Reasonably Practicable) is considered to be best practice by the Health and Safety Executives, and is derived from case law in accident investigation cases. The HSE's document "Reducing Risks, Protecting People" (Reference 52) gives the background to ALARP.

10.2.2 The aim of the ALARP principle is to strike a balance between the severity of the consequence of a particular hazard, and the cost and difficulty of implementing control measures.

10.2.3 A risk can be declared ALARP, provided it is not in the "intolerable" region described below, if it is believed that all possible mitigating actions and safeguards have been identified and, if considered reasonably practicable, implemented.

10.2.4 The ALARP principle therefore recognises that it is seldom possible to entirely remove risk, and this is particularly true in a marine environment.

10.2.5 ALARP statements are to be generated following the formal hazard review. This may entail further analysis of the hazard or identification of additional mitigating actions.

10.3 Risk Classification System

10.3.1 The Formal Safety Assessment conducted in May 2003 derived risk levels by using the risk matrix approach shown at Figure 10-1. The risk matrix approach is used to combine the estimated likelihood of a hazard with its estimated consequences to people, the environment and assets (the higher the risk numbers the greater the risk).

10.3.2 Figure 10-1 also shows the risk acceptance criteria for this project: those that fall in the green region (C) are considered to be "Broadly Acceptable" and those within the red region (A) are "Intolerable". Risks that fall between these categories are in the As Low As Reasonably Practicable (ALARP) region. It should be noted that it is incorrect to say that a risk in region B "is ALARP". Its placement in this region means that the risk has to be demonstrated to be ALARP by means of mitigations and risk reduction.

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- a) Intolerable risks (class A) would require urgent attention and be the focus of regular reviews by the Broads Authority and any suitable risk control measures that are identified should be seriously considered for implementation. Such risks cannot be declared ALARP, a means of reducing or avoiding the risk must be found and implemented;
- b) Risks in the ALARP region (class B) require review to ensure that they can be satisfactorily weighed against the time, trouble, cost and physical difficulty in taking further measures to reduce them;
- c) Broadly acceptable risks (class C) would require some attention and occasional review (e.g. annually) to ensure that they remain under control.

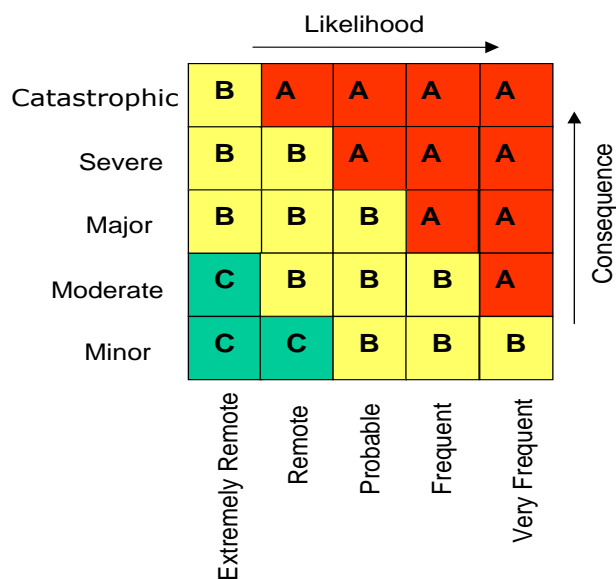


Figure 10-1: Risk Assessment Matrix

10.3.3 Risks are judged in terms of their likelihood (the probability of an incident occurring) and their impact (the worst-case consequence, if an incident occurs, on people, assets and the environment).

10.3.4 The estimates that were provided in the original FSA were considered to be worst credible scenarios, however, it is important to emphasise that these values should be viewed in relative terms and are not absolute measures of risk. Empirical evidence has shown that experts tend to be pessimistic when estimating risk levels (particularly when relating to safety) and this should be considered when reviewing the results of risk assessments.

Assessment of Incident Likelihood

10.3.5 The likelihood categories range from less than 1 incident per 100 years to a likelihood of more than 1 incident per month, as shown in Table 10-2 below.

Likelihood Category	Definition
Extremely Remote	Less than 1 incident per 100 years.
Remote	Between 1 incident per 10 years and 1 incident per 100 years.
Probable	Between 1 incident per year and 1 incident per 10 years.
Frequent	Between 1 incident per month and 1 incident per year.
Very Frequent	More than 1 incident per month.

Table 10-2: Risk Likelihood Categories

Consequence to People

10.3.6 The consequences to people to people range from no injuries or damage to health to >5 fatalities or >50 major injuries, as shown in Table 10-3 below.

Consequence Category	Definition
None	No injuries or fatalities.
Minor	1 minor (recoverable) injury.
Moderate	1 major injury (e.g. broken bones); or <10 minor (recoverable) injuries; or 1 minor occupational illness.
Major	1-10 major injuries; or multiple occupational illnesses.
Severe	1-5 fatalities; or up to 50 major injuries.
Catastrophic	>5 fatalities or >50 major injuries.

Table 10-3: Consequence to People

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Consequence to the Environment

10.3.7 The consequences to the environment range from no environmental damage to persistent and severe environmental damage over a large area with, as shown in Table 10-4 below.

Consequence Category	Definition
None	No environmental damage.
Minor	Minor local pollution with short-term environmental damage; limited pollution response required by Broads Authority and/or other local organisations.
Moderate	Moderate local pollution with medium-term environmental damage; significant pollution response required by Broads Authority and/or other local organisations.
Major	Major but recoverable (in the medium term) environmental damage over a local area; significant pollution response required by Broads Authority and/or other regional organisations.
Severe	Severe but recoverable (in the medium to long term) environmental damage over a large area; significant pollution response required by the Broads Authority and/or other regional organisations.
Catastrophic	Persistent and severe environmental damage over a large area; major pollution response required by the Broads Authority and/or other national organisations.

Table 10-4: Consequence Categories – Environment

Consequence to Port and Shipping infrastructure

10.3.8 The estimates of consequences to assets ranged from no damage to assets to complete disruption to commercial activities; cost of repair >£10M; all river users affected, as shown in Table 10-5 below.

Consequence Category	Definition
None	No damage to assets.
Minor	No disruption to user activities; cost of repair £0-£10K.
Moderate	Brief and partial disruption to user activities; cost of repair between £10K-£100K; few river users affected.
Major	Significant short-term or minor long-term disruption to user activities; cost of repair between £100K-£1M; many river users affected.
Severe	Significant and long-term disruption to user activities; cost of repair £1M<£10M; many river users affected.
Catastrophic	Complete and long-term disruption to user activities (e.g. river closure for up to 1 month); cost of repair >£10M; all river users affected.

Table 10-5: Consequence Categories – Port and Port infrastructure

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Consequence to the Port and Port User Operations (business, reputation etc.)

10.3.7 The consequences to the Port and Port operations range from no damage to reputation and business to severe business disruption and reputational damage, as shown in Table 10-5 below.

Consequence Category	Definition
None	No impact on reputation or disruption to business.
Minor	Local complaint/recognition, Minimal change in stakeholders 'confidence, impact lasting less than 1 week. Minor business disruption
Moderate	Local complaint/recognition, minor local press interest, Minimal change in stakeholders 'confidence Impact lasting less than 1 month. Small amount of business disruption
Major	Local, regional media coverage, Moderate change in stakeholder confidence, Impact lasting between one and three months, Moderate business disruption
Severe	National media coverage, Significant change in stakeholder confidence, Impact lasting more than three months, attracts regulators attention /comment, Major Business disruption and impact
Catastrophic	<u>International media coverage, Dramatic change in stakeholder confidence, Impact lasting more than 12 months/ irrecoverable Public censure / accolade by regulators, Catastrophic Business disruption and impact.</u>

Table 10-5: Consequence Categories – Port and Port User Operations

10.3.9 The estimates of likelihood and consequence were made in terms of orders of magnitude, using expert judgements which were provided when preparing the Formal Safety Assessment. More background may be found in the Formal Safety Assessment report (Reference 49).

10.4 Management of hazards and risk

10.4.1 Having identified hazards and controls, it is important to verify that those controls are put into place, and that they are effective in mitigating the hazard.

10.4.2 This requires that the hazards are reviewed on a regular basis, and that completion of the actions is recorded. It is also important to identify the actions for any given control measure, and to ensure they are aware of, and accept, the action.

10.4.3 The Guide to Good Practice on Port Marine Operations identifies the steps of hazard management as shown to the right of Figure 10-6.

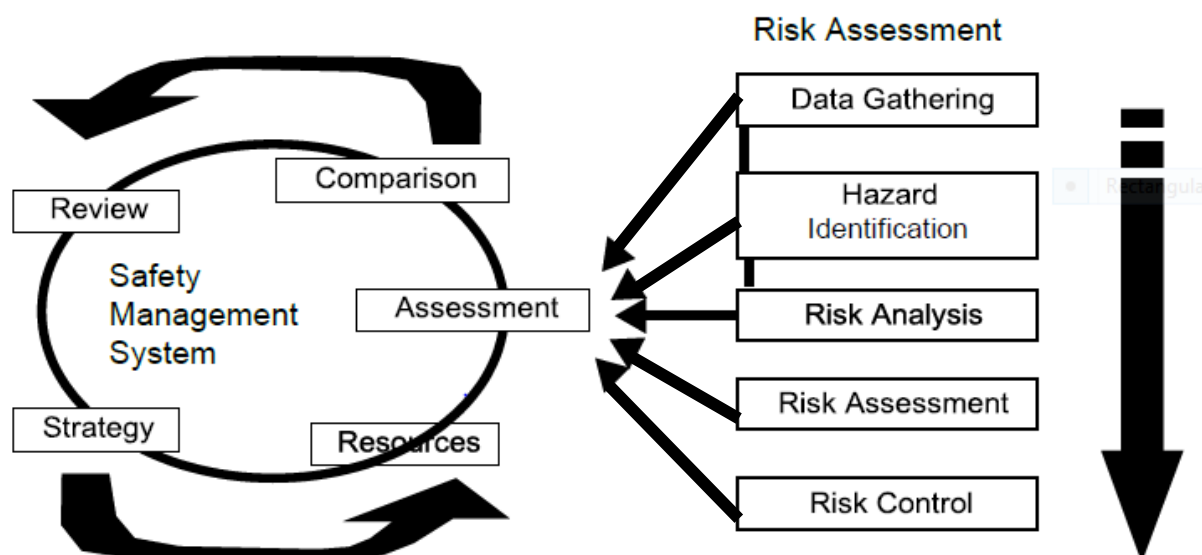


Figure 10-6: Safety Management System and Risk Assessment

10.4.4 The Authority has developed a Hazard Management Policy see figure 10-7.

Broads Authority Hazard Management Policy

In accordance with the Port Marine Safety Code, the Broads Authority has a duty base its policies, plans and procedures based on a formal assessment of hazards and risks.

It is the Authority's policy that it will:

- i) Ensure that all personal are aware that they may raise a hazard
- j) Manage the Hazard Log, which will be the responsibility of the Head of Safety Management.
- k) Maintain and track the Hazard Log, create action plans following subsequent reviews and monitor and record progress via regular meetings of the Boat Safety Management Group.
- l) Review the Hazard log every three years by way of a full stakeholder review.
- m) Keep this policy under review as part of the planned monitoring and auditing of the Safety Management System Action Plan;
- n) Act in a proportionate and timely manner to address any perceived shortfalls in this policy.

Figure 10-7: Broads Authority Hazard management Policy

10.5 Risk Assessment

- 10.5.1 It is a part of the Authority's Navigational Safety Policy that risk assessment techniques be used to ensure that hazards are reduced to a level which is as low as reasonably practicable.
- 10.5.2 It is important that risk assessments are conducted to a common standard, and against common criteria. This will then enable the level of risk to be understood and prioritised.
- 10.5.3 The Authority has developed instructions for the conduct of a risk assessment, including definitions of the probability and consequence of identified hazards. These instructions, along with a blank risk assessment form, are published on the Authority's intranet. (Reference 53)
- 10.5.4 These instructions have been used for the risk assessments of the 24-hour moorings (see section 8.3.).
- 10.5.5 These instructions have been used in the preparation of generic and site specific risk assessments, in the Broads Authority's corporate occupational health and safety system.
- 10.5.6 Risk Assessments are stored electronically both on the corporate server and on the Broads Authority Intranet which is available to all employees.

10.6 Boat Safety Scheme

- 10.6.1 The Boat Safety Scheme (Reference 54) is a nationally-implemented scheme. Its aim is to work on behalf of the UK's navigation and harbour authorities to help sustain safety and promote pollution avoidance on the inland waterways in respect of boats, their installations and components.
- 10.6.2 The Scheme concentrates on safety of the fixtures and fittings of the boat principally with respect to fire, fumes and explosion. As such, it concentrates on engines, fuel tanks, gas appliances/piping and electrical equipment/cabling. The BSS does not cover navigational safety, stability or watertight integrity of hulls.
- 10.6.3 The BSS has been introduced in three phases between April 2007 and April 2009, with the larger craft and hire craft requiring earlier compliance.
- 10.6.4 The version of the BSS issued in 2015 applies to all craft, whereas a additional checks issued in 2017 applies to hire craft craft. Work Boats and other boats such as small passenger craft are subject to the BSS 2002 version of requirements.
- 10.6.5 The Authority initially introduced the Boat Safety Scheme through byelaws however the Broads Authority Act 2009 made compliance with the Boat Safety Scheme mandatory under the "Construction Standards" provision which will allows for greater

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flexibility in the event of an update to the Boat Safety Scheme. The byelaws were revoked when the Construction Standards provision was implemented.

- 10.6.6 The Authority is active in the development of the BSS requirements and has influence over the management of the scheme. The Authority is represented on a number of BSS committees including, the BSS Technical Committee represented by the Head of Safety Management, the BSS Advisory Committee represented by the Lead Broads Authority Member for Safety, and the BSS Management Committee represented by the Head of Ranger Services.

11 Emergency Response

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The Civil Contingencies Act 2004 provides a framework for civil protection in the event of an emergency that threatens serious damage to human welfare, the environment or security. Harbour authorities are classified as category 2 "cooperating bodies". They will be involved in the associated planning work, and heavily involved in incidents that affect their sector. They are responsible for co-operating and sharing relevant information with category 1 (emergency services and local authorities) and other category 2 responders *Section 3.9*

11.1 Introduction

11.1.1 This section of the SMS describes the Authority's preparedness for emergency situations, and their procedures for dealing with an emergency should it arise.

11.2 Responsibilities

11.2.1 The Broads Act does not give the Authority a responsibility to act as an emergency service. Nonetheless, the Rangers and Broads Control frequently receive emergency calls, and have a responsibility to liaise appropriately with the emergency services.

11.3 Reporting of an Emergency

11.3.1 In the event of an emergency on the water, boaters are instructed to call the Emergency Services on 999. The Coastguard acts as co-ordinator for any action which may be required, liaising with Broads Control and the Rangers as necessary.

11.3.2 The Broads Authority is not a designated Emergency Service and is not a declared Search and Rescue (SAR) resource by H.M. Coastguard. However, the Authority's staff and patrol launches are frequently called on to assist the official emergency services in searching for missing persons or overdue vessels, communicating emergency messages to vessels, providing guidance on locations and access to the rivers network and sometimes transporting police, fire, ambulance or coastguard personnel or equipment.

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- 11.3.3 The Broads Authority's personnel and resources are controlled via the "Broads Control" VHF Radio Base station in Norwich. Broads Control is operated during office hours seven days a week in summer, shorter hours in winter. Callers with emergencies or serious problems are directed to dial 999 and ask for the appropriate emergency service. H.M. Coastguard will co-ordinate any major incident that requires any of the maritime SAR assets to be used.
- 11.3.4 Some areas of the Broads have good access to the road network, so the usual land based emergency services can reach any casualty in these areas. For the open waters of the Broads, and those rivers with no direct road access, the Broads Authority provides patrol craft manned by Rangers and trained volunteers.
- 11.3.5 The Norfolk Constabulary "Broads Beat" has a boat available for Police patrols and to assist with SAR activities. The Hemsby Inshore Rescue RIB can be transported to the Broads and regularly exercises on the waterways. The RNLI has established an inland Lifeboat Station at Great Yarmouth. This is equipped with a directly launched D Class inflatable and also a small portable inflatable deployed to distant locations on a specially adapted four wheel drive pickup vehicle.
- 11.3.6 Most of the sailing and boating clubs on the Broads have dedicated rescue craft afloat during racing and regattas and the Authority has good relations with these clubs and their resources can be called upon when required.
- 11.3.7 Search and Rescue Helicopters are co-ordinated by the Aeronautical Rescue Coordination Centre and they will deploy resources based in Humberside and Lydd where required to service the Broads area.
- 11.3.4 Broads Control operates a messaging/incident recording system for recording all calls received - whether an emergency or not. Incident records are kept and maintained for analysis and the derivation of trends and statistics.
- 11.3.5 The Broads Authority provides a 24 hour 365 days a year standby facility for the Emergency services usually coordinated by the Coastguard. Out of office hours the Coastguard control unit can contact the duty standby manager via a pager system in the event of an incident. The on call standby manager is primarily to provide advice and guidance to the emergency services however they have access to other operational staff and can call on all available officers and deploy vessels and equipment to assist where necessary. All standby staff are trained in boat handling, first aid and oil spill procedures.

11.4 Incident Reporting System

- 11.4.1 Incidents can be reported to the Broads Authority by a variety of methods, verbally to Broads Control or any member of staff, via a prepaid postal form and online via the Authority's website

11.5 Assessment of the Situation

11.5.1 If the Authority receives a call from a person in distress, the Rangers and Broads Control need to determine the nature of the situation, and decide whether it is necessary to call the Emergency Services, or whether to attend themselves. Any Broads Authority response to such situations is coordinated by Broads Control who have reference to the Navigation Officer where necessary.

11.6 Response to a Minor Emergency

11.6.1 In the event of a minor emergency (for example a vessel which has run aground), a Ranger will attend and provide support as required. All Broads Authority personnel operating in the field are first-aid trained, as described in the Training and Development Policy Reference 16).

11.7 Oil spills

11.7.1 The Authority has produced two plans for management of oil/fuel spills.

11.7.2 The “Oil Spill Contingency Plan - Broads Navigation Area” (Reference 55) is for spillages relating to private and hire craft. Such spills are generally relatively minor in nature, and consist of spillage of diesel during fuelling, and the leaking of engine oil or fuel into bilges and thence into the water.

11.7.3 The plan has been compiled in consultation with the Environment Agency, English Nature, Defra, Norfolk County Council and the Great Yarmouth Port Company.

11.7.4 It describes three tiers of response, in terms of the quantity of spillage, the organisation and mechanism for response, and the resources at the Authority’s disposal for containment and disposal of oil. The plan interfaces with Local Authority and National plans for the higher tiers of severity. In all cases, containment and recovery of the pollutant is the preferred option - the use of dispersants is avoided unless necessary.

11.7.5 The other type of oil spill which may occur is the escape of Heavy Fuel Oil (HFO) from the tanker supplying fuel to the British Sugar factory at Cantley. Because this is a very rare operation, and the potential severity of a spill is significantly higher than the situations in the main plan, a separate plan has been developed in conjunction with British Sugar. The “Broads Authority/British Sugar Oil Spill Contingency Plan - Cantley Trade” (Reference 56) outlines the arrangements for responding to a major spillage of HFO in this situation.

11.7.6 The plans include consideration of arrangements for the safety of those involved in the oil spill response, a definition of the level of training required, and a regime for the conduct of exercises.

11.8 Communications

11.8.1 In the event of calls being received by the Authority as a result of a major incident, the call will generally be passed to the officer with the appropriate technical background to respond.

11.8.2 A Communications Strategy has been developed by the Authority, which details aims and procedural information for all communications both internally and to external bodies inclusive of the media . (Reference 57)

11.8.3 A number of key staff have received training in dealing with the media effectively including response to major incidents.

11.9 Emergency Response Exercise

11.9.1 The Authority isn't an Emergency Response Organisation.

11.9.2 The Authority takes part in emergency planning exercises with the emergency services and the County Emergency Planning team.

12 Monitoring and Auditing

12.1 Introduction

12.1.1 The SMS will evolve and develop as the Broads area changes. Effective management and maintenance of the SMS will be required, to monitor any changes and the impact that those changes have on safety.

12.1.2 The PMSC requires that the SMS is monitored and audited to ensure that it continues to meet the requirements of the code. Such monitoring and auditing comprises three basic types:

- a) Proactive monitoring: This involves regularly reviewing aspects of the SMS to ensure that it is continuing to deliver an appropriate level of safety. This is generally achieved by reference to a defined set of performance indicators;
- b) Reactive monitoring: This involves reviewing the causes and outcomes of any incidents or accidents, and ensuring that any implications on the SMS are captured and implemented;
- c) Auditing: This involves taking a detailed and independent look at some or all of the SMS to verify its compliance with the PMSC and its effectiveness.

12.2 Proactive Monitoring

12.2.1 The PMSC requires that monitoring is carried out to demonstrate to the Duty Holder that the SMS is achieving its goals.

12.2.2 To monitor performance, it is necessary to identify a set of performance indicators which will cover all aspects of the SMS.

12.2.3 The following performance indicators will be monitored monthly to provide evidence of the continued functioning of the SMS, and enable progress towards (or away from) targets to be assessed. The status of each indicator, in relation to its defined target, will be recorded on the Authority's website.

Conservancy and Management of Navigation

- a) Delivery of Annual dredging programme (Target: 100%, however a phased increase in target may be preferred based on the Sediment Management Strategy Action Plan);
- b) The number of navigational aids (markers/buoys/lights) which are overdue for scheduled inspection (Target: Zero);
- c) The number of Channel markers and buoys renewed against annual maintenance programme.

- d) The number of formal written warnings issued by Rangers (Target: No target set, however the indicator provides a measure of the level of activity);

Pilotage

- e) The number of piloted movements undertaken within the reporting period (Target: No target set, however the indicator provides a measure of the level of activity);
- f) The number of escorted movements undertaken in the reporting period (Target: No target set, however the indicator provides a measure of the level of activity);

Marine Services

- g) Number of moorings and land sites which are overdue inspection (Target: Zero);

Hazards and Risk Assessment

- h) Number of non-ALARP hazards. (Target: Zero)
- i) Number of hazards overdue for review (Target: Zero)

Emergency Response

- j) Number of recorded incidents. (Target: No target set, however the indicator provides a measure of the level of activity. It may also be argued that a low number of incidents is partly due to the successful implementation of a Safety Management System);
- k) Number of oil spill incidents (Target: No target set, however the indicator provides a measure of the level of activity. It may also be argued that a low number of incidents is partly due to the successful implementation of a Safety Management System).

12.3 Reactive Monitoring

- 12.3.1 The purpose of reactive monitoring is to ensure that any incidents or accidents are reported and investigated, and that where an amendment to the SMS might reduce the risk of reoccurrence, that amendment is made.
- 12.3.2 The Authority has an incident reporting procedure that utilises the Incident Reporting and Investigation System (IRIS) application to log and record incidents. It is the Authority's policy that all reports from this system will be reviewed on a monthly basis to determine whether an amendment to the SMS might be required.
- 12.3.3 Each incident report is to be risk-assessed in accordance with the criteria at Section 10 of the SMS. This assessment should take into account that a low-category incident recurring regularly may, on aggregate, merit a higher category.
- 12.3.4 Category C issues are to be logged for implementation at the next scheduled SMS update. Category B issues are to be raised to senior management, and a decision

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taken as to whether an immediate update of the SMS is required. Category A issues should be notified to senior management, and an update to the SMS issued promptly.

12.3.5 Examples of the kind of amendment which may be required include updating a policy, or changing the status of a hazard.

12.3.6 Where an amendment to the SMS is identified, it shall be logged for implementation at the next update, unless the severity of the situation is such that an immediate update is required.

12.4 System Auditing

12.4.1 Monitoring of performance indicators provides a useful guideline as to how well the system is functioning, however an occasional in-depth analysis of the SMS is required.

12.4.2 The Designated Person will conduct annual internal audits of specific areas of the SMS, record the findings, and implement any action which arise as a result.

12.4.3 Every three years, the Authority will arrange for a full audit to be undertaken by an independent third party to gain an objective opinion of the effectiveness and suitability of the SMS to meet its objectives, and to verify continued compliance with the PMSC.

12.4.4 The following sequence is proposed for the conduct of full and internal audits.

Year	Subject
1	Conservancy and Management of Navigation and Marine Services
2	Hazard/Risk Assessments, Emergency Response and Pilotage
3	Full System Audit

Table 12-1: Proposed audit sequence

12.4.5 The Designated Person will have responsibility for conducting internal audits, reporting the outcomes of all audits to the Members of the Authority, and arranging for the results to be published.

12.4.6 Where audits identify areas for improvement or non-compliances, an Action Plan will be developed to rectify these issues.

12.4.7 The audits will be timed to feed into a statement that will be made in the Broads Authority Annual Report on the navigation safety performance of the Authority. It is a requirement of the PMSC (paragraph 3.19) that performance reports should be

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published by the Authority. The Guide to Good Practice cites three years as an appropriate interval for such reports. The Full Audit programme is timed to align with this.

12.4.8 An external audit of the SMS was completed was completed in November 2017 which produced a report “Assurance Review of Port Marine Safety Code” (Reference 58) which sets out the findings and recommendation together with the Broads Authority initial responses.

13 Recommendations

13.1 Recommendations

The following list summarises the recommendations that have been made in the current issue of the SMS

Source	Recommendation
Integrated Hazard Review 2015/16 Reference 54	It is recommended that the Integrated Hazard log remains under continual review, and is subject to a review in Spring 2019 and then three years from the date of publication of the report.
Integrated Hazard Review 2015/16 Reference 54	It is recommended that the Integrated Hazard Review Action Plan (Appendix 1) is implemented.
Internal Audit of Hydrographic policy	It is recommended the Sediment Management Strategy is updated to recognise changes in dredging methods and disposal opportunities
External Audit Reference 58	Governance: To arrange for a peer review to be undertaken of the Broads Authority's Safety Management System (SMS) by the Canal and River Trust, or another suitable organisation, as a reciprocal arrangement in between external audit visits in addition to the 3 yearly external audit.
External Audit Reference 58	Governance: To include a PMSC dedicated page on the Authority's website. This should include: - A performance dashboard showing the status of each indicator, detailing the target, current performance against the target and the historic trend. - The Authority's SMS, highlighting the Authority's responsibilities as Duty Holder for the Broads.

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<p>External Audit Reference 58</p>	<p>Governance: The Authority's annual report should refer to the PMSC, including compliance with this and the standard of performance, cross referenced to the performance dashboard.</p>
<p>External Audit Referecne 58</p>	<p>Governance: To update the Authority's SMS as follows:</p> <ul style="list-style-type: none"> - The Introduction chapter to include reference to the commitment of the Broads Authority to comply with the standards laid down within the PMSC; - Reference is made to the harbour revision order being progressed for the transfer of Mutford Lock to the Authority; - Inclusion of an overall section on contractors and their obligations in respect of the PMSC; - Inclusion of the general direction and special direction policies as supported by the Navigation Committee.
<p>External Audit Reference 58</p>	<p>Governance: To formalise the reporting of internal audits by the Head of Safety Management to the appropriate committees / groups, e.g. the BSMG including the annual schedule / Internal Audit Programme of audits. To ensure these cover all aspects of the PMSC.</p>
<p>External Audit Reference 58</p>	<p>Governance: The PMSC is included as a standard item in the Authority's induction pack/process.</p>
<p>External Audit Reference 58</p>	<p>Governance : Briefings given to the Navigation Committee and BSMG on the risk assessment process, hazard identification and assessment and the ALARP principle are documented and recorded in the minutes.</p> <p>Briefing packs in relation to the risk assessment process, hazard identification and assessment and the ALARP principle (which are provided to the stakeholder group involved in the review of hazards) should also be made available to all new appointees to the Navigation Committee and the BSMG. Consideration is also given to providing these to all members of the Navigation</p>

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	Committee and the BSMG.
External Audit Reference 58	Governance: A timescale is finalised for the roll out of the document management system in relation to the safety management team.
External Audit Reference 58	Hazards: To review the SMS risk categories / criteria of people, environment and assets against the four criteria of: life, environment, business (reputation) and damage (port and shipping), as contained in the latest PMSC Guide to Good Practice.

14 Abbreviations and Glossary

14 Abbreviations

14.1 Abbreviations

AINA	Association of Inland Waterways Authorities
ALARP	As Low As Reasonably Practicable
BA	Broads Authority
BESL	Broadland Environmental Services Ltd
BFAP	Broadland Flood Alleviation Project
BSS	Boat Safety Scheme
BWSF	British Water Ski and Wakeboard
CE	Chief Executive
Defra	Department for the Environment, Food and Rural Affairs
DfT	Department for Transport
ES	Environmental Stewardship
ESA	Environmentally Sensitive Area
FSA	Formal Safety Assessment
GIS	Geographic Information System
HAZOPS	Hazard and Operability Study
HFO	Heavy Fuel Oil
HSE	Health and Safety Executive
IRIS	Incident Reporting and Investigation System
MCA	Maritime and Coastguard Agency
NERC	Natural Environment and Rural Communities
PMSC	Port Marine Safety Code
SAC	Special Area for Conservation
SAR	Search and Rescue
SMS	Safety Management System
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SWIFT	Structured What-If Technique
VTS	Vessel Traffic System
WDC	Waveney District Council

Table 14-1: List of abbreviations

14.2 Glossary

Competent Harbour Authority	Any harbour authority which has statutory powers in relation to the regulation of shipping movements and the safety of navigation within its harbour, and whose harbour falls wholly or partly within an active former pilotage district. (Source: Pilotage Act)
Designated Person	Provides independent assurance to the Duty Holder that the SMS is working effectively, and to audit the Authority's compliance with the Code. (Source: PMSC)
Duty Holder	Each board member of a harbour authority must accept responsibility for ensuring that the Authority discharges its duties and powers to the standards laid down. The members are, severally and collectively, the Duty Holder. (Source: PMSC)
Harbour	The area or areas inside the limits of which the harbour authority's statutory powers are exercisable. (Source: Pilotage Act)
Impact	The severity (in terms of people, assets or the environment) of an incident or accident occurring as a result of a hazard.
Likelihood	The chances of an incident or accident occurring as a result of a hazard.
Marine Operations	Marine Operations means the moving, berthing un unberthing of ships and other marine craft within the limits and approaches of the harbour Authority (Source: A Guide to good Practice on Marine Port Operations)
RAMSAR	The Convention on Wetlands, signed in Ramsar, Iran, in 1971, an intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.
Risk Class	The classification of a risk, in terms of tolerability, based upon its likelihood and impact
Statutory undertaker	Persons authorised by enactment to carry out any railway, light railway, tramway, road transport, water transport etc. undertaking. Any public gas supplier, water or sewerage undertaker, the Environment Agency, the Post Office and the Civil Aviation Authority are deemed to be Statutory Undertakers (Source: Town and Country Planning Act 1990, 262).

Table 14-2: Glossary of Terms

15 References

- 1 [Norfolk and Suffolk Broads Act, 1988 \(c. 4\)](#)
- 2 [Port Marine Safety Code](#), DETR, , dated November 2016
- 3 [A Guide to Good Practice on Port Marine Operations](#), DETR, dated February 2017
- 4 Great Yarmouth Port Company Ltd. [Peel Ports Marine Safety Management System MSM/001 April 2017](#)
- 5 [Associated British Ports - Marine Policy](#), dated May 2017
- 6 [The Norfolk and Suffolk Broads Act 1988 \(Alteration of Constitution of the Broads Authority\) Order 2005, Statutory Instrument 2005 No. 1067](#)
- 7 [Pilotage Act, 1987 \(c. 21\)](#)
- 8 [Broads Authority \(Pilotage Powers\) Order 1991, Statutory Instrument 1991 No. 1633](#)
- 9 [Broads Authority Act 2009 \(c. i\)](#)
- 10 [Natural Environment and Rural Communities Act 2006 \(c. 16\)](#)
- 11 [Health and Safety at Work Act, 1974](#)
- 12 [Management of Health and Safety at Work Regulations, 1999](#)
- 13 [The Rivers \(Prevention of Pollution\) Act 1951 \(Continuation of Byelaws\) Order 1989, Statutory Instrument 1989 No. 1378](#)
- 14 [The Norfolk and Suffolk Broads Act 1988 \(Alteration of Constitution of the Broads Authority\) Order 2005, Statutory Instrument 2005 No. 1067](#)
- 15 [Port Operations National Occupational Standard](#)
- 16 Broads Authority Training And Development Policy version 1.3
- 17 Port Marine Operations Training Policy Ver 2
- 18 Broads Authority Health And Safety At Work Policy version 1.3
- 19 [The Broads Plan 2017: Partnership strategy for the Norfolk and Suffolk Broads](#), dated March 2017
- 20 Boating Safety Management Group Terms Of Reference Ver 1.3
- 21 [Statement of Community Involvement](#), Broads Local Development Framework, revised November 2014

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- 22 **Waterways Specification, Sediment Management Strategy**
- 23 Broads Authority Sediment Management Strategy ver 1.2
- 24 Broad Authority Tree and Scrub Guidance
- 25 Tree Risk Identification and Management ver 1
- 26 Broads Authority Navigation Byelaws 1995
- 27 Broads Authority Vessel Dimension Byelaws 1995
- 28 Broads Authority Speed Limit Byelaws, 1992
- 29 Broads Authority Vessel Registration Byelaws, 1997
- 30 East Suffolk and Norfolk River Authority Regulating the use of boats fitted with sanitary appliances Byelaws
- 31 Special Directions Procedure OP-6-4-2
- 32 General directions Procedure OP-6-4-1
- 33 Broads Authority Enforcement Policy Navigation Functions, ver 2
- 34 **A Mooring Strategy for the Broads Authority, dated March 2006**
- 35 [Navigation Area Works Guidance, Version 2.3, dated September 2010](#)
- 36 Standing Orders for Broads Authority Mud Pilots, Draft 3, dated December 2000
- 37 Standing Orders for Broads Authority Launches on Coaster Escort Duty, dated 3 March 2001
- 38 Power Boat Racing at Oulton Broad Management Plan
- 39 Broads Authority Paddling Scheme Commercial Operator Conditions 2017
- 40 Code of Practice for Rowing Coaching Vessels Norwich
- 41 Broads Authority Workboats , Seven Day and Daily checks
- 42 Broads Authority Patrol Launch, Seven Day and Daily checks
- 43 Powered Hire Boat Licensing Conditions 2010
- 44 Code for the Design, Construction and Operation of Hire Boats, published by the Maritime and Coastguard Agency Version 1.
- 45 Broads Authority Small Passenger Boat Licensing Conditions

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- 46 Inland Waters Small Passenger Boat Code, Maritime & Coastguard Agency/Association of Inland Navigation Authorities, Ref MCA/IW/01, dated February 2004
- 47 Lifebuoy Daily Check Sheet
- 48 Management of Health and Safety at Work Regulations, 1999
- 49 Broads Authority Navigational Formal Safety Assessment, 328S116, Issue 1.2, dated May 2003
- 50 Integrated Hazard Review 2015/16 ver 1
- 51 Hazard Identification Sheet ver 1.2
- 52 Reducing Risks, Protecting People - Health and Safety Executive, 2001. ISBN 0 7176 2151 0, <http://www.hse.gov.uk/risk/theory/r2p2.pdf>
- 53 Risk Assessment Instructions And Form version 1.3
- 54 Boat Safety Scheme, 2002, 2015 and 2017, British Waterways and Environment Agency, <http://www.boatsafetyscheme.com>
- 55 Oil Spill Contingency Plan, Version 4, dated November 2016
- 56 Broads Authority/British Sugar Oil Spill Contingency Plan - Cantley Trade
- 57 Broads Authority Communication Strategy ver 3
- 58 Safety Management System External Audit 2017
Doc ref BA/18/02